

# MOTOR TREND

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BEST OF THE MID-PRICE 3-  
Dodge, Mercury, Pontiac?

MARCH 1959 35c

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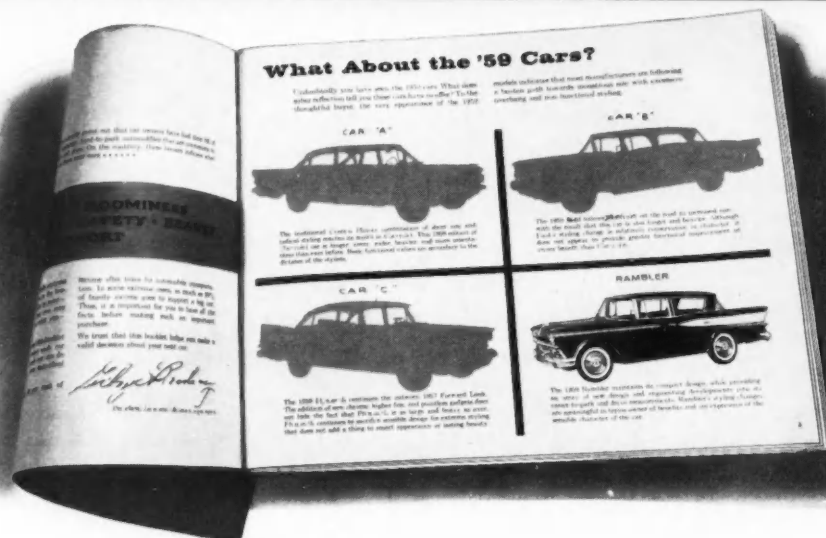
JUL 29 1959

Comparison:  
BRAKES,  
PERFORMANCE,  
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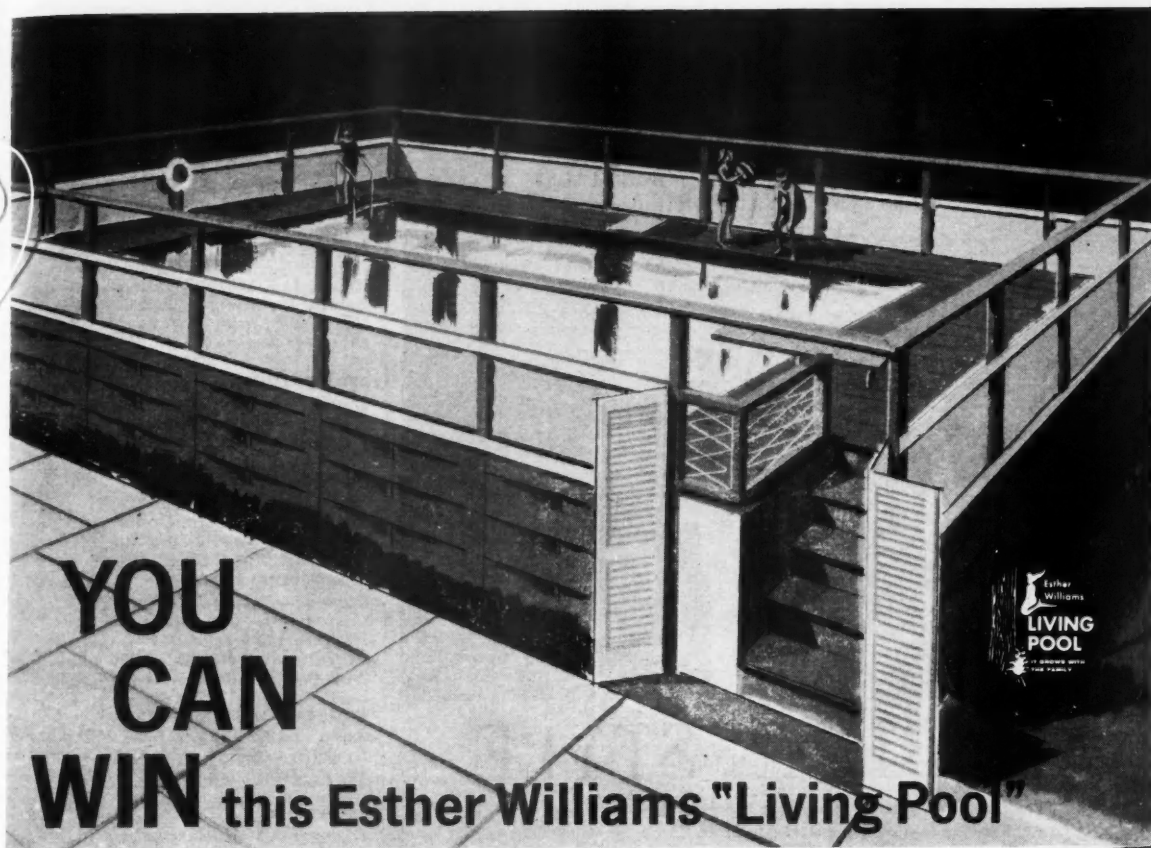


1959 RAMBLER 4-DOOR SEDAN

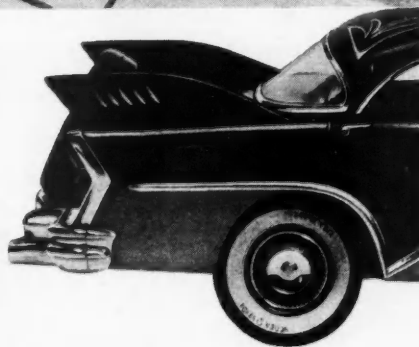
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MARCH, 1959

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## NEXT MONTH

Porsche vs. Corvette  
Annual Motor Trend Award  
Boosting Performance

# MOTOR TREND



## THE COVER:

Final preparations are made on the Dodge and Mercury, while the Pontiac is all set to go on the three-way comparison test. The setting is Riverside International Raceway. Ektachrome photo is by Bob D'Olivo.

## CONTENTS

*"The Voice of the Motoring Public... campaigning for better and safer cars"*

### special STYLING STUDY

- MEMO TO DETROIT:** "Let good taste be the stylists' guide" . . . 42
- THE BEST-LOOKING CARS OF '59** . . . 44  
MOTOR TREND makes selections and tells you why
- DESIGN CONTEST** . . . 46  
Launching our new "Project Ideas"

- news SPOTLIGHT ON DETROIT** . . . 10  
Comparing El Camino and Ranchero; Flying Jeep
- AROUND THE WORLD IN 30 DAYS** . . . 16

- road tests TESTING THE MID-PRICE THREE** . . . 22  
Comparing the Dodge, Mercury and Pontiac
- DRIVING THE CHRYSLER 300-E** . . . 58

- adventure "MY GREATEST THRILL"—IMPOSSIBLE VICTORY** . . . 34

- imports DRIVING THE JAGUAR XK-150** . . . 17
- DRIVING THE AUSTIN A-40** . . . 18
- TESTING THE BIALBERO** . . . 38  
Abarth-modified Fiat proves to be earthbound rocket
- DRIVING AROUND—IN THE LANCIA FLAMINIA** . . . 48

- classics A DUESENBERG FOR '59?** . . . 50

- humor "GLEAM ENGINEERS"** . . . 76

- technical THREE-WHEELING** . . . 36  
Unconventional "Vortex" has many interesting features
- ENGINE TUNE-UPS** . . . 60
- DO-IT-YOURSELF:**
- SPARK PLUG CARE** . . . 65
- ELIMINATING RATTLES** . . . 68
- INSTALLING 3-FOR-1 TAIL LIGHTS** . . . 72

- product LODGE SPARK PLUGS** . . . 54
- use tests TRACTION-MASTER SHOCK ABSORBERS** . . . 55
- PLASTIC STEEL** . . . 55
- HEATH ELECTRONIC TACHOMETER** . . . 56

- departments**
- Memo from the Editor . . . 6
- Letters . . . 8
- Rumor Mill . . . 13
- Car Owner's Library . . . 20
- Trends in New Products . . . 53
- Handy Hints . . . 70
- What's Your Question? . . . 75
- ClassiComments . . . 78
- Sell 'N' Swap Ads . . . 80
- Escape Road . . . 82

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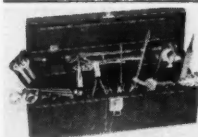
Sam Hanks holds American Closed Course record (182.5 M.P.H.); also many state and national racing titles.



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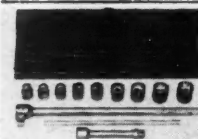
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6 MOTOR TREND/MARCH 1959

## MEMO FROM THE EDITOR

**A**T A TIME WHEN Detroit manufacturers are warily watching new car sales figures, an announcement like the one made by Hertz president Jacobs could really put them on a milk-toast diet. The president of the country's largest car rental organization (they handle 35,000 trucks and cars of all kinds) envisions this for the future city dweller:

"A 200-unit apartment house with 800 occupants. As part of the apartment lease, the tenants have the use of any one of the 100 cars in the building's garage. When dad goes to the club he calls down for an Imperial. When mother goes shopping she calls down to reserve a Chevy. And when Junior goes out on a date, he makes sure he gets a convertible."

Mr. Jacobs bases his reasoning on the fact that "the city driver's car is idle 95 per cent of the time, while it's incurring depreciation costs, and the costs of insurance, licensing, storage and interest investment." He also declared that "... the era of the automobile as a symbol of social position, wealth or prestige is vanishing." "The family car," he added, "is on the way out."

Sobering thoughts, indeed.

**THERE'S A QUESTION** as to whether or not the "experts" really know what causes traffic accidents. They seem to know the "who, what, when and where," but do they know the "why?"

To rectify this, a team of scientists at Northwestern University's Traffic Institute is making a study of the human causes like the following:

1. The real significance of emotional instability and recklessness in traffic accidents.
2. The specific effect of alcohol on drivers, especially when less than an intoxicating amount is taken into the blood.
3. The exact relationship of the vehicle's rate of speed to the time needed for a driver to recognize dangerous situations and to take evasive action.
4. To what extent accidents are caused by specific vision deficiencies or other physical defects.
5. The real reasons for inattention of various kinds in solving the problems presented by modern traffic situations.

This long-range project, promoted and financed by the U.S. Bureau of Public Roads, the U.S. Public Health Service and the Automotive Safety Foundation, is actually a "pilot study." According to Ray Ashworth, Director of the Traffic Institute, the pilot phase will take three years of full-time study. "From this," Ashworth says, "will come valuable new data on accidents, as well as new concepts and techniques of collecting data."

Five or more additional years may be needed to get the final answers, with the ultimate goal being to simplify and standardize accident investigations. However long it may take, we should find out the reasons behind every accident. It would be invaluable to automotive and traffic engineers, highway designers, public officials and safety organizations—to say nothing of us motorists.

**DRAMATIC PROOF OF THE CONTRIBUTION** that the automotive industry has made to the nation's growth is shown graphically in the new edition of *Automobile Facts and Figures*, a pamphlet issued by the Automobile Manufacturers Association in Detroit. For example:

Nationwide registrations of all motor vehicles have increased more than 53 per cent in the past 10 years—climbing from 44.6 million in 1949 to an estimated 68.5 million today. . . .

Nearly three-quarters of all U.S. households have at least one automobile, and one out of every eight families has two or more cars. . . .

Of all inter-city travel, 88 per cent was done by cars. . . .

Other interesting facts:

Eight states have half of all passenger car registrations in the U.S. California leads the nation, followed by New York, Pennsylvania, Ohio, Texas, Illinois, Michigan and New Jersey. . . .

Over 79 million licensed drivers drive an average of 8070 miles annually for a record total of 643 billion miles. . . .

Almost three out of every four new cars sold in 1958 were for replacement of the over four million used cars scrapped last year. . . .

If you ask us, if a few more of the cars we've seen on the highways were scrapped, things would be a lot safer for all of us.

*Paul H. Brown*



Ever wanted to design your own car? Chevrolet lets you come awfully close—with a choice of nine engines, five transmissions, two suspension systems, regular or Positraction rear axles, special cams, solid or hydraulic valve lifters, two air conditioning systems, even Fuel Injection. You name it, chances are Chevy has it. Here's an example of what we mean:

## "I 'built' my Chevy to handle like a sports car... for five!"



"Take a young architect (that's me) with a Corvette appetite, a one-car budget and a family of wife, three kids and a puppy, and you've got frustration.

"That is, you did—until Chevy came out with that terrific four-speed floor-shift gearbox.\* The minute I heard that, I knew Chevy had given me the makings of a *family* sports car that would be the greatest!

"Here's how I 'designed' the sweetest handling five-seater that ever came down the pike: First, an Impala two-door sport coupe. Then the 290-h.p. Fuel Injection V8\* and, buttoned on right behind it, that

great four-speed box. (That's the Corvette transmission, you know, with synchro on all *four* gears and that solid, direct floor shift.) The driveline ends up with Chevy's limited-slip Positraction\* rear axle to give me real glued-to-the-road traction on gravel, mud or whatever.

"Seat belts, of course, and those optional 8.00 x 14 tires. But I wouldn't add a thing to Chevy's 'open air' visibility, or the genuine road car

feeling of Chevy's Full Coil suspension and Ball-Race steering. I've let a lot of my sports car friends drive the Impala and you ought to see the look on their faces after a couple of blocks. Man, I never thought a family car could feel like *this!*"

Maybe you never thought about it this way, but here's a car that you really can tailor to your measure. Why don't you sit down now and make an outline of what your "ideal" car would be like—we'll bet there's a Chevy that fits your list of specifications like a glove! . . . Chevrolet Division of General Motors, Detroit 2, Michigan. \*Optional at extra cost.



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## LETTERS

M

T

### WORST BUY OF YEAR

Gentlemen:

In my opinion, the 1959 Chevrolet is the worst buy of the low-priced three.

Ford has created a conservative, crisply-styled car—a design that will never really become outdated. Plymouth, who developed an excellent design in 1957 which carried through '58, has, with some styling improvements, kept this design.

Chevrolet's styling, as opposed to Ford's and Plymouth's, is fantastic. It has a sharp, scintillating look and will probably be the year's eye-catcher. But there's the rub—this year's eye-catcher. A design such as Chevrolet's cannot stay in style.

Ford and Plymouth, by keeping yearly changes to a minimum, give their new car buyers the feeling that their automobiles will not be obsolete in styling when next year's models appear.

I select Ford as the best buy, with Plymouth a close second.

Ray Bishop

Perkasie, Pa.

### 'TAINT SO!

Dear Sir:

I would like to comment on P. A. Schlueter's letter in a recent issue of MT, in which he says that all the people in Europe who can afford an American car have them! This is rather a sweeping statement, and whilst pride in one's country is a good thing, I think Mr. Schlueter has gone too far.

The cheapest Chevrolet here in Britain is £2000 (approximately \$5600). For this outlay a Rover three-liter with automatic transmission can be bought. This car would be more suitable for our roads and represents craftsmanship throughout.

There are many other cars available here costing more than imported American cars—and just as large and luxurious—which

would have no market in this country if your correspondent's letter were correct.  
David K. Richardson London, England

### SECOND TO NONE

Dear Editor:

It seems that everybody wants to complain about the American automobiles that are being built these days.

I must admit that, sure, prices are high, quality is at times very uncertain—but in the overall picture our products are second to none in the whole world. (Why do the imports copy our designs?)

Dollar for dollar our cars give the consumer so much more for his money that it is ridiculous to place the imports in the same league. Your article, "Plymouth vs Lago America" (January MT), proves the point even more.

L. A. Brown

Guelph, Ont., Canada

### "EASY AS PIE"

Gentlemen:

An old pie tin serves as a tip-proof tray when you are working under the hood of the car. Bolt the tin to a spare radiator cap. When ready to work take off the regular cap, screw on the one with the tray. It will hold all your small tools, nuts, bolts, etc., so none are mislaid or lost.

C. L. Dahlstrom Miami Springs, Fla.

### HARD TO PLEASE

Dear Editor:

I have some comments to make on those letters in your January issue which really blasted the Detroit automobiles.

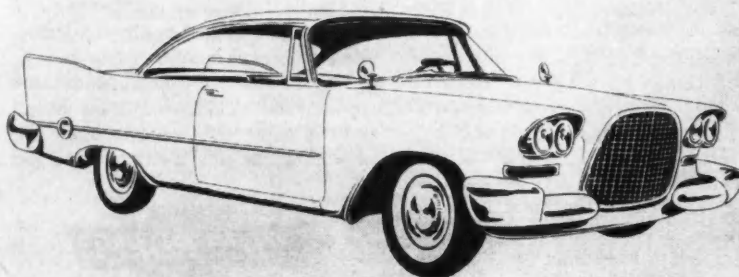
As for the use of too much chrome on the '59s—I want to compliment Detroit on their fine use of chrome, especially on the GM products. Style-wise they far outshine the foreign models.

The transformation is accomplished by the use of a Studebaker Hawk grille turned upside-down, plus additional metal work.  
Warren Hoffman Liverpool, N.Y.

### PLYMOUTH "300"

Gentlemen:

Here is a sketch of mine transforming a '58 Plymouth hardtop into a Plymouth 300.



If they want economy, easy parking, there's always the Lark or the Rambler.  
Pfc Clark Weigel Camp Pendleton, Calif.

#### HORRIFYING TREND

Gentlemen:

In terms of mechanical excellence, reliability and performance, it is my considered opinion that the American automobile cannot be equalled for use on the North American continent.

However, when I look at the trend which has been developing in the American automobile since 1956, I become very puzzled, not to say depressed. Whilst all cars seem to progress mechanically with better brakes, better steering, better suspension systems and many other improving characteristics, it seems to me that we are going backwards in body styling, and above all, in interior comfort and finish.

I suppose it is useless to resist the modern trend towards the space-ship type of styling, and I guess I could learn to live with this if I had to. What I object to most strongly is this appalling deterioration in detail finish and interior comfort. Except for the really high-priced machines, such as Cadillac, Lincoln, Imperial, there is not a row of pins to choose between any of the rest where interior comfort and detailed finish are concerned.

The British car does not appeal to me in terms of driving comfort and performance, but oh, how I wish one of the Big Three would take a leaf out of the book of, for example, Jaguar or Rover on interior finish, comfort and luxury!

Henry de Solla Don Mills, Ont., Canada

#### SOLUTION: BUTTERFLY DOORS

Dear Editor:

The picture of your technical editor exiting the '59 Plymouth on page 75, January MT, is the most convincing argument in favor of butterfly doors à la Mercedes—swivel seats or not. A butterfly-type door would have cleared the adjacent car and exit/entrance would not have been impeded.

John Maruska, Jr. Arlington, Tex.

#### UNJUST ACCUSATION

Dear Sir:

Your only reference to a 300-E in your January "all-cars" issue is on page 32—and that only in passing. You also classify this as a family car. If it is—Frank Sinatra is a family man.

If this car were built in Europe and had a \$10,000 price tag, you would devote five pages to it.

Stop selling American cars short. Who buys your magazine—Europeans?

J. A. Raphael Neponsit, N. Y.  
You accuse us unjustly. The Chrysler 300-E has been selected as one of the best-looking cars of the year (page 44). A driving impression also appears on page 58.—Ed.

#### NO FRICTION

Dear Mr. Woron:

Your article on the John Green Corp. (page 94, December MT) is a real success story, and we are very proud of their achievements.

One of the contributing factors to our increased volume is our merchandising arrangement with Peugeot. You may be sure that any friction between our companies would retard our progress and work to the disadvantage of both of us. I am very glad that there is no friction, and I am certain you will understand my surprise at the mention of such in the article.

Robert E. Valode  
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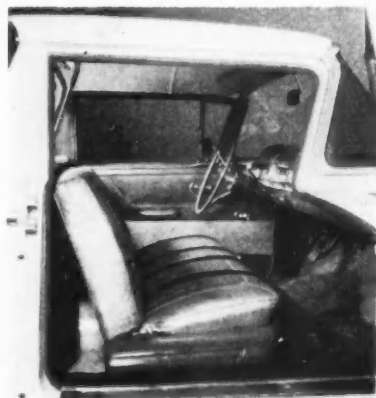
# SPOTLIGHT

# ON

# DETROIT



*Cabs of El Camino, above, and Ranchero, below, offer comfort, plush appointments.*



by Bill Callahan Detroit Editor

**WHEN FOMOCO'S HIGHLY STYLIZED,** high-performance Ranchero pickup proved a popular choice among truck purchasers it was a foregone conclusion that Chevrolet would not be far behind. Chevy's answer for 1959 is the El Camino—a name inscribed in glamorous script on a practical pickup that sports all the high styling of the Chevy passenger car line.

**MOTOR TREND** was interested to know just how this new unit by Chevy stacked up with the Ford offering in the same category. Red underwear weather that ensconced itself over the lower peninsula of Michigan, coating roadways with snow and ice, particularly in the by-lanes where this type of vehicle should prove most acceptable, precluded any bonafide road test. However, we were able to check out a driver reaction to both units.

**THE EL CAMINO** came from Chevrolet Engineering at the GM Tech Center. It was powered by a 283-cubic-inch V8 with a compression ratio of 9.5 to 1 which with a four-barrel carburetor develops 230 hp at 4800 rpm and 300 pounds-feet of torque at 3000 rpm. The odometer read 1529.5 which meant the job could be driven at speed without worry. The transmission was a single range Powerglide, and rear end ratio 3.36 to 1. No power steering or power brakes.

**THE RANCHERO** came from Ford Engineering in Dearborn. It was powered by a 352-cubic-inch V8 with a compression ratio of 9.6 to 1. Equipped with a four-barrel carburetor it developed 300 hp at 4600 rpm and 380 pounds-feet of torque at 2800 rpm. Transmission was a dual-range Cruise-O-Matic and the rear axle ratio 2.69 to 1. Power steering and power brakes were used. Both trucks were rolling on 8.00 x 14 tires.

**FIRST TEST STEP** was to check speedometer accuracy. The Ranchero was badly off. At true 30 the speedo read 34, at true 45 it read 53, at true 50 it showed 58 and at true 60 it read 69. The El Camino was much more consistent, reading 32 at true 30, 47 at true 45, 52 at true 50 and 62 at true 60.

**WEIGHING PERFORMANCE** against these corrected readings the two cars checked out surprisingly close. The El Camino was considerably more agile in the zero to 60 runs, turning in low average of 9.3 seconds against the Ranchero's 10.9. In the zero to 45 range, the El Camino averaged 6.6 seconds, the Ranchero 7.2. In both cases the averages were based on the best four out of eight or more runs.

**IN PASSING SPEEDS** the El Camino also is a little quicker in the 30 to 45 mph range, requiring only 3.9 seconds against the Ranchero's 4.1. From 45 to 60 mph the El Camino needed only



*From rear both pickups resemble passenger cars. El Camino provides 33 cubic feet of storage and Ranchero has 27 feet.*



*Front views are exactly as sedans. Ride, acceleration, braking and handling are very much unlike conventional trucks.*



## Comparing the glamor pickups—Ford's Ranchero and Chevy's new El Camino

... Rumor/facts about Ford's small car for '59 still fly thick and fast ...

Chrysler pushes "aerial jeep research" ... DeSoto presents new idea car ...

3.9 seconds against the Ranchero's 4.2. The Ranchero, however, topped the El Camino in the step-up from 50 to 80 mph requiring only 11.2 seconds against the El Camino's 12.1. This was due to the fact that the El Camino dropped out of the accelerating gear at about 63 mph while the Ranchero remained in kick-down gear up to 68 mph.

**DRIVER REACTION** is that both the El Camino and Ranchero handle like anything but trucks. While the El Camino leans quite a bit on hard cornering and has far too slow a steering ratio, it is stable and does follow the direction of the wheels. The Ranchero, with slightly faster steering is also a little flatter on sharp curves, but the inside rear wheel does lift under severe cornering conditions. Braking and steering, both power assisted on the Ranchero, naturally were easier than on the El Camino tested, which had no power assists for these functions. Stopping the El Camino without power brakes is no problem, but the steering is so slow that this might revive the "necker's knob" to assist in parking.

**SETTING UP REAR SPRINGING** for combined "touring-trucks" such as these two cars, which might run empty or overlaid as much as 50 per cent, is a real problem for the engineer. Solution: a happy medium. The El Camino with its coil spring rear suspension gives a softer ride on washboard roads than the Ranchero with variable rate leaf springs. However, it had a lot more bounce and a rougher ride on really bumpy cross-country, off-pavement driving. Both cars were run unladen and would most certainly be quite different with their recommended maximum loads. With the type of springing and unladen weight distribution they have, bottoming could be expected if load recommendations were exceeded.

**CAB INTERIORS** are as plush as the passenger car models—with attractive upholstery, comfortable seats and conveniently located controls. Visibility is good in both. In this department again comparisons are close and the choice would be largely a matter of buyer



*Chevrolet's El Camino sports high styling of passenger car line, yet provides space for 1030-pound load. It should prove hot competitor to Ford's Ranchero during 1959.*

taste. Noise level in the Ranchero cab is considerably higher than in the El Camino but unless one looks into the rear view mirror, the illusion of driving a passenger car is complete. Here again the choice rests between whether you like quiet, quick performance, or a nice guttural getaway.

**CARRYING CAPACITIES** are about the same in the weight department but vary in volume of space. The Ranchero on a 118-inch wheelbase provides about 27 cubic feet of space in its seven-foot body with tailgate raised. Payload is put at 1100 pounds. The El Camino wheelbase is 119 inches, with body length at the floor 76.3 inches and 70.6 inches at the top with tailgate closed

(which provides 33 cubic feet of space). Payload is placed at 1030 pounds. The El Camino is lower with a tailgate height of 25.3 inches against the Ranchero's 27 inches. Both pickups are available with either six- or eight-cylinder engines.

**ROOM 138** in the Ford Styling Section at Dearborn, Mich. can be entered only by those who possess a key. Up to now members of this exclusive key club are limited to a very few of Ford's top echelon, for this room houses FOMOCO's bid for recognition in the "compact" car field when, as, and if that market develops to a point where it is considered worth bidding for. We

*continued*

# SPOTLIGHT ON DETROIT

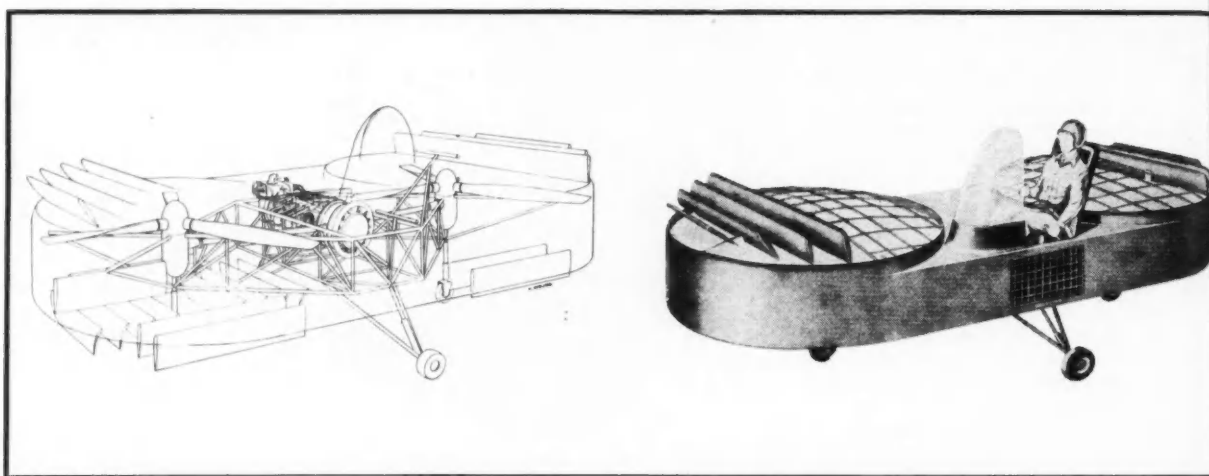
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have it on rather high authority that the smaller car will make its debut in the fall of 1959. But—and it's a big BUT—it is not impossible to pull the rug from under the whole program, even though a rather firm decision may already have been reached to go ahead as of now. The next few months will tell the story.

**THE BIG QUESTION IS:** Would the entry of Ford, Chevy and Plymouth into the small-car market appreciably increase its scope, or is American Motors' success based upon dividing up that share of the market that normally would go to

**A MAN IN THE 1960S** has a good chance of coping a ride in a military aerial Jeep before living out his traditional three score years and ten. And, if fortune smiles and his life span is continued a few years beyond the tradition, he may even enjoy the pleasure of flitting about the country at treetop height in his privately owned flymobile. That's the gist of an optimistic paper prepared by John V. Gorton of Chrysler Corp.'s Defense Operations Division, and presented at the annual meeting of the Society of Automotive Engineers in Detroit January 12th to 16th. Some other researchers were not so optimistic.

is supported solely by the down-thrust of one or more fans or propellers rotating in a horizontal plane are obvious. The purpose of the military aerial Jeep program is to develop an airborne vehicle "intended to fly slowly, near the ground, among trees and buildings and to hover in close proximity to ground personnel." The mission of the aerial Jeep would be to operate in areas and under conditions in which the use of the already proved helicopter would be impractical and hazardous. Once such a vehicle has been perfected, its application for civilian use would be just another step.



*Chrysler's twin-rotor, ducted-fan aerial Jeep may be able to overcome pitch, roll and yaw via a series of controllable vanes. Jeep is designed to fly about 25 mph, not more than a few feet off ground, would be utilized where helicopters cannot maneuver.*

independents among fewer brand names? These questions still bother those who have to make the million-dollar decision to bring, or not to bring out a compact car.

**EXCEPT FOR FOUR WHEELS** on the ground, we are assured that the new small Ford bears little or no resemblance to featured artists' conceptions of it. It will be a six with possible optional powerplants. It will be smaller overall, but with ample interior room and comfortable seating. It will offer high economy of operation. It will have "conservative good looks" with a considerable departure from the general George Walker concept of styling, although he is directing it. It will not be a rehashed T-Bird-Ford-Mercury motif. That is, if the present decision to produce it is not countermanded later.

**AS EARLY AS 1955** Chrysler felt there was need for a military vehicle possessing a third dimension in mobility—flight. It began experimenting with ducted fans as a means of providing both lift and propulsion for a low-speed, low-altitude flying vehicle. Then on July 15, 1957 the Transportation Research and Engineering Command of the U.S. Army (TRECOM) granted a research contract to the corporation and serious studies of the possibilities got underway. By the time you read this, Chrysler will have completed initial flight tests on an experimental single-engine, twin-fan model.

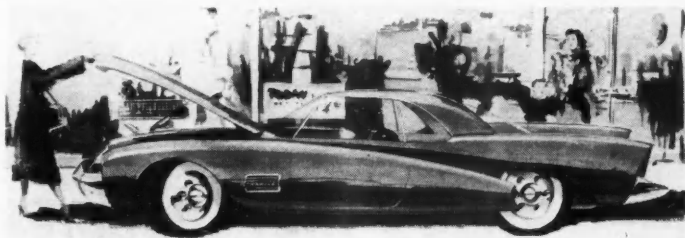
**FLIGHT STABILITY** in the aerial Jeep presents problems that are a lot more complex than those inherent in the famous bowl in which the owl and the pussy cat so blithely put out to sea. The problems of balancing a platform that

**SIZE AND SHAPE** of the military aerial Jeep is somewhat dictated by the government requirement that to facilitate its transportation it must be sufficiently compact to permit four such vehicles to be carried in a C-130 airplane. It must have a payload capacity of 1000 pounds including the pilot. It must have provision for carrying passengers and for at least one crew member when transporting weapons. It must have a minimum range of 25 nautical miles with useful load, and a cruising speed of 25 knots. A normal flight mission calls for 30 minutes aloft and 10 minutes in hovering mission. These limitations would not apply to a civilian version.

**DIMENSIONS OF CHRYSLER'S** model are roughly 23 feet long and 10 feet wide, and present a minimum silhouette. Presently it is planned to use an en-

continued on page 67

# THE RUMOR MILL



**"Chrysler will offer a sportscar similar to the Corvette in the near future."**

**DOUBTFUL**—What may have sparked this rumor is a Corvettish design (see illustration) shown by J. E. Charipar of Plymouth Styling when he presented an SAE paper predicting trends in future styling. In the past Chrysler has exhibited some very striking sports models, but is likely to continue to reach for the go-go boys with its Plymouth Fury and Chrysler 300 series.

**"General Motors cars equipped with Hydra-Matic transmissions for 1959 cannot be started by pushing or towing."**

**TRUE**—The rear oil pump has been removed from the 1959 Hydra-Matic transmissions; therefore in case of battery failure it is necessary to use a booster battery or install a new battery to start. This applies to all Pontiacs, Cadillacs and Oldsmobiles. Buick and Chevrolet, which do not use Hydra-Matic, are not affected. Olds claims the change was made to avoid possible damage to cars in push starts.

**"Wheelbases in some 1960 cars will be shorter than those in comparable models for 1959."**

**NOT LIKELY**—It is possible overall length of 1960 cars will shrink, but wheelbase may remain the same or longer to provide more interior room.

**"One line of cars for 1960 will have mufflers and exhaust outlets at the front rather than piping the exhaust to the rear."**

**PROBABLE**—Front exhausts would be less expensive and would remove designers' headaches as to where to put exhaust lines under lower cars. The idea, however, might conflict with some state laws.

**"The trend to redesigning engines to use regular grade gasoline will be continued in 1960 models."**

**TRUE**—But as was the case this year, the buyer will be given a choice of higher performance engines requiring high test gasoline.

**"Some cars in 1960 will be a full inch lower than present models in the same line."**

**PROBABLY TRUE**—The trend to lower cars is still with us, although stylists are now aiming at more interior room and more comfortable seats. Present estimates of minimum car height range from 52 to 48 inches. The



52-inch limit has just about been reached in 1959 models, but in the above sketch, J. E. Charipar of the Plymouth Styling Division shows how present cars could be lowered to 48 inches.

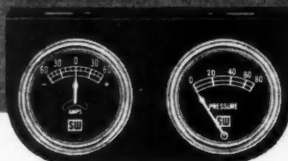
STEWART-WARNER

gives you



big

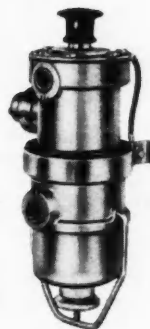
**MOTORING EXTRAS!**



**Extra Protection With Twin Gauge Panel.** Tells more than ordinary "warning lights." Gives rate of current flow . . . helps prevent overcharging or discharging of battery. Tells exact oil pressure . . . helps assure safe engine performance. Only \$9.90.

**Extra Performance**

**With Electric Fuel Pump.** Gives instant starts . . . delivers steady flow of gasoline. Ends vapor lock due to abrupt temperature changes. Eliminates stalling due to surging or over-pressure. Ideal for high compression motors. Only \$39.95.



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**With dependable Motor Minder.** A must for every driver who wants top mileage per gallon of gas. Helps avoid costly repair bills by giving constant check on condition of spark plugs, carburetor, rings, valves, timing, etc. Pays for itself in savings. Easy to install. Only \$12.05.

Get these motoring extras at your car dealer, service station, garage or automotive parts store.

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# NEW MILEAGE

## MODEL 300 at

Mileage Minder has been imitated, but never equalled. This new model 300 contains patented engineering features which make it the unchallenged leader. No balls, valves, checks, springs or complicated adjustments.

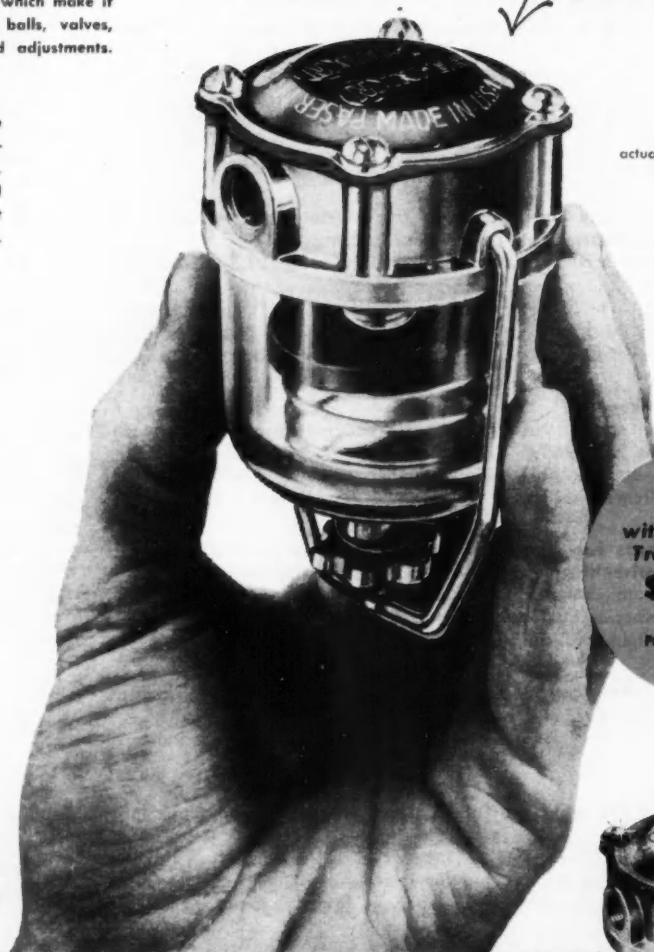
**NEW . . .** Model 300 Mileage Minder has the exclusive Magnetic Trouble Trap which captures and holds all troublesome iron oxides, rust chips, weld flakes, thread shavings. Sold separately for \$1.95—now installed without extra charge in the new Mileage Minder.

**NEW . . .** Only Mileage Minder has (or can have) the exclusive patented diaphragm principle, which smooths out the damaging and wasteful fuel pump pulsations and delivers gasoline to the carburetor in a smooth, steady flow, at properly engineered pressures.

**NEW . . .** Mileage Minder's handsome chrome and di-chromate finish makes it stand out like a jewel in your motor. Your friends will admire it.

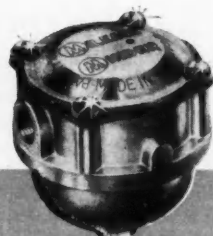
**NEW . . .** Easy to install, do it yourself! Instructions are simple to follow. All you need is an end wrench and pliers. Takes only a few minutes.

*Here's the* ✓ *patented.*



actual size

new  
with magnetic  
Trouble Trap  
**\$6.95**  
Price maintained



Your  
favorite

### Mechanic Recommends Mileage Minder

Ask your friend at your service station, car dealer, garage or parts store. He's familiar with Mileage Minder and knows the benefits it's guaranteed to bring you. Or, if he doesn't have it, he'll be glad to get it . . . Mileage Minder is distributed nationally through leading automotive concerns. Remember, there's only one Mileage Minder, fully covered by U.S. Patent 2544289. Insist on genuine Mileage Minder products. Accept no substitute.

OTHER  
FINE  
MILEAGE  
MINDER  
PRODUCTS

**MILEAGE MINDER NO. 200 MB**  
Same fine features described above, but with very compact, metal bowl. Best for close fitting installations, or for marine and industrial use. Magnetic Trouble Trap included. Sold everywhere for only \$7.95.



# MINDER

a new low price!



Now, no more gas waste, bucking, hard starting, vapor lock and flooding. Mileage Minder gives you smooth, economical power, pickup and performance. Saves 3 or more gallons of each tank of gasoline!

## .... Fuel Pressure Stabilizer and Purifier that will solve your car's fuel waste problems —as it has millions of others—at a new low price!

The demand for Mileage Minder has multiplied to the point that we've added a new model to meet every need.

If you're one of the millions of motorists owning a late model car but you aren't getting full performance from it, you need Mileage Minder's guaranteed benefits.

If you're tired of getting only part of the gasoline mileage and performance you paid for... read along with us and we'll tell you how this great new product is specifically engineered for your car, and absolutely guarantees measurable gasoline economy, improved performance and power.

Modern cars have complicated and complex fuel systems. Higher horsepower, faster acceleration, higher cruising speed, safe passing speeds... these are things you pay for in a modern car... but do not always get.

Fuel pressures have skyrocketed to meet the demands of modern engines. Just a few short years ago, fuel pressures of two pounds were common, but now many cars demand pressures of six, seven and even eight pounds per square inch.

These higher fuel pressures are necessary for full performance, but they bring with them higher impact pressures, which mechanics recognize as the source of trouble. Furthermore, modern engines demand absolutely clean gasoline, without mineral or metallic impurities, so there can be no clogging of

the highly sensitive needle valve in the carburetor.

*How Mileage Minder Goes to Work In Your Car.* Mileage Minder is a combination fuel pressure stabilizer and purifier, which positively overcomes the conditions that are causing the trouble. The new Mileage Minder contains a dual neoprene diaphragm (U.S. Patent No. 2544289) which is spring-supported and acts as a pressure storage chamber; cushioning the impact of the gasoline as it comes from the fuel pump; then passes fuel on to the carburetor in a smooth even flow. Mileage Minder can cause no injurious fuel pressure reduction. Instead, it smooths it out at the proper pressure for finest and most economical performance.

Mileage Minder's pressure chamber principle positively traps vapor-locking gasses, which cannot pass on through the fuel stream until condensed and liquefied.

Mileage Minder contains a sintered bronze fuel filter, which positively removes all dust, dirt and sand, even as fine as .003".

*New Mileage Minder has built-in magnetic "Trouble Trap."* A powerful KH-297 magnet is positioned directly in the gas stream so that its magnetic field captures and holds all troublesome iron and steel oxides, weld chips, rust flakes, thread shavings or any ferrous metallic particles.

*Quick, dramatic results.* The results are noticeable in your car at once. They are:

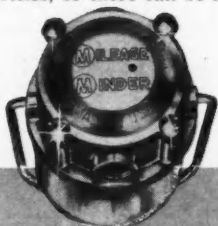
- Save 10% to 40% gasoline
- Stop flooding, hard starting
- Give tiptoe power, flashing acceleration
- Smooth idling. No stop sign dying
- Makes starting quicker, easier, smoother
- Cuts out gasping, stuttering, bucking
- Ends annoying gas odors in car
- Helps prevent fuel line vapor lock
- Causes no harmful reduction or restriction of manufacturers' recommended fuel pressures

*Money saving no risk offer.* Right now, you too can experience the benefits of Mileage Minder on your own car—on a money-back guaranteed basis. If you're not completely satisfied, just return Mileage Minder and your money will be cheerfully refunded.

If you ordered Mileage Minder and Trouble Trap separately, the cost would be \$8.90. Now, your new Mileage Minder is equipped with Magnetic Trouble Trap at a 28% saving... just \$6.95, complete with fittings for your car. Mileage Minder is easily installed by anyone in just a few minutes, with the simplest of tools.

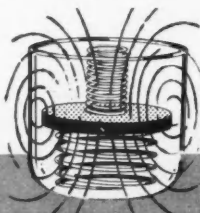
New Mileage Minder pays for itself in gas savings and improved performance, or your money refunded.

At your automotive supplier, or use the money-saving coupon in this ad.



**MILEAGE MINDER "All-chrome"**  
No. 100 KU

All outside metal parts highly polished chrome. Has saved millions of gallons of gasoline for hundreds of thousands of satisfied users. An accessory of real beauty. (Does not include Trouble Trap). \$6.95.



**Magnetic TROUBLE TRAP No. GG1**  
Makes any good filter better. Installs easily in most standard filter or fuel pump bowls. Traps and holds iron oxides, weld chips, rust flakes, and ferrous metal particles. Stops carburetor clogging. Included in Mileage Minder models 300 and 200 MB. Sold separately for \$1.95.

**TODAY! Mail This Money-Saving No-Risk COUPON!**

Paser Manufacturing Co.  
533 MT-3 Turk Street, San Francisco 2, Calif.

Please send new Mileage Minder with magnetic Trouble Trap, with satisfaction guaranteed. (Quickly pays for itself or money refunded.)

I enclose cash..... check..... money order..... for \$6.95.  
(Special, quick-action offer includes postage)

Name.....

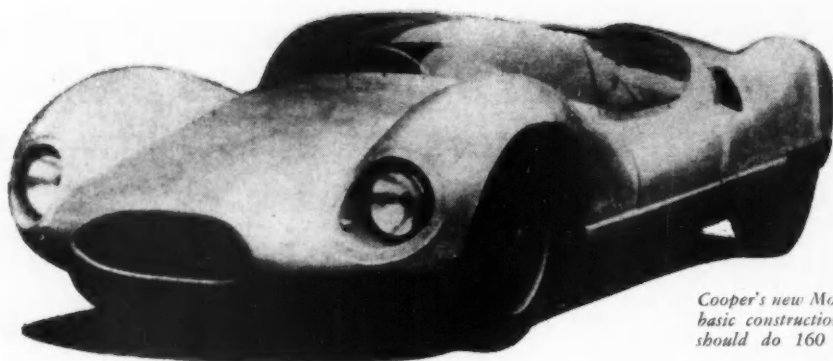
Address.....

City..... State.....

Make, year and model of car.....

# AROUND THE WORLD IN 30 DAYS

A monthly summary  
of the latest foreign car news  
from our overseas correspondents



*Cooper's new Monaco sports-race car has same basic construction as their Grand Prix cars, should do 160 mph with Climax engine.*

**JAPAN** Mitsubishi Heavy Industries will attempt to crack the U.S. industrial vehicle market this year with a line of three-wheel trucks. Largest will be the Mustang with a single front wheel, an air-cooled, two-cylinder engine and a top speed of about 50 mph. Capacity is 3000 pounds and price will be about \$1795.

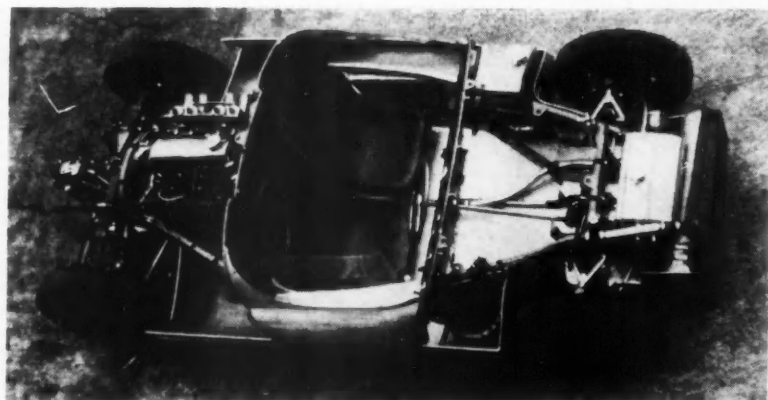
**GERMANY** An all-new, rear-engined sports-car will shortly hit the U.S. market. Two versions to be available—either one- or two-cylinder engines, with speeds above 90 mph. Price should be about \$1500 . . . Look for VW to introduce an all-synchromesh gearbox

before long. Complaints from U.S. drivers about shifting into first while moving motivate the change. VW production should be up to 700,000 annually by 1960 compared to current output of about 550,000 per year . . . East Germany's Wartburg is being offered in two versions, 37 and 53 hp, the latter a sports model. Both have front-wheel-drive and three-cylinder, two-stroke engines displacing 900cc. In comparison with cars from Western Europe the Wartburg is very noisy at high rpms but interior comfort is not bad. Construction is sturdy, steering is neutral with springing soft in front and hard in rear. Styling is conventional for small

European autos. Some are currently being imported into the U.S. . . . Big trend in Germany is to give the chassis and engine of small German cars to an Italian stylist who produces a special version. Karmann was the first with the VW, then came NSU with the Sport-Prinz and now Lloyd with its Lloyd-Alexander-Frua. Basically the Alexander TS with Frua body, it will reach about 75 mph. The car will be available in Germany about March of this year . . . BMW has gone all-out to keep U.S. Army private Elvis Presley happy in Germany. They have furnished him with a 507 coupe for his off-duty hours. Just a typical G.I. . . . BMW hopes to get its long-awaited 1600cc sedan into production sometime in 1959. Our drawings depict the prototype currently being tested but rumors are that Italian stylist Michelotti may be working on a new body . . . Look for Rob Walker, British owner of a successful stable of Cooper racing cars, to experiment with some of Borgward's 1500cc racing engines. These twin-cam, fuel-injected powerplants develop well over 150 hp as compared to 140-145 for the 1500cc Coventry Climax currently in use.

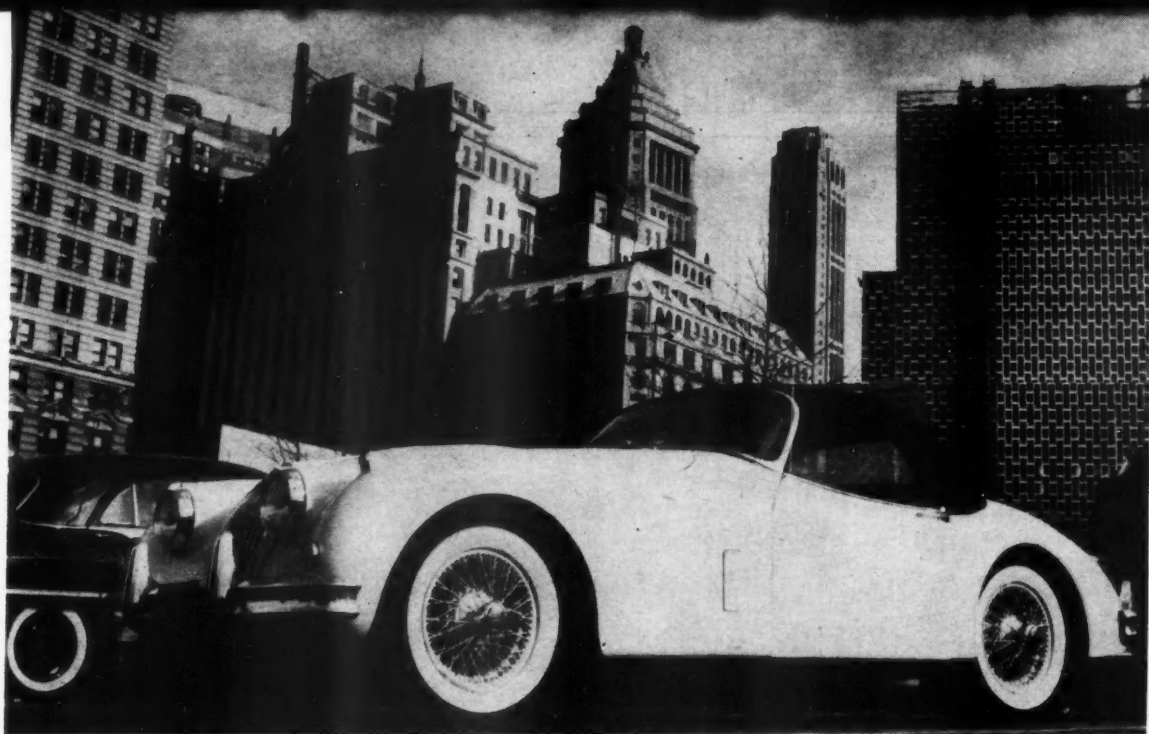
**NEW ZEALAND** Stirling Moss started off the 1959 racing season in his usual style by winning the Grand Prix of New Zealand. He led all the way in a Formula I Cooper.

**ENGLAND** Cooper's new Monaco sports-racing car promises to be one of the most exciting of the 1959 season. Many basic details—wheelbase, track, suspension, weight distribution—are virtually the same as on the



*Cooper Monaco is one of the first of their rapid sports-race cars which will actually carry two people. Car is designed for long-distance races, will be fast with new 2½-liter Climax engine.*

continued on page 19



Jaguar XK-150S roadster appears at home beneath New York's skyline. Car retains Jag's traditional styling with even more luxury than before.

## Driving the Jaguar XK-150S

**WHEN FACED WITH A PRICE RANGE** of "about \$6000," and a stable of 250 horses, the average car buyer expects certain advantages. He's after the owner's pride, and you can bet he'll expect to be "out in front" in other ways.

We'll, whatever his income bracket, the buyer of the 1959 Jaguar XK-150S should not feel over-extended in any way, because this machine definitely returns a lion's share of looked-for qualities.

Such was our reaction, anyway, as soon as we were given the keys to the model, courtesy of Ev Martin, Jaguar Cars, New York. Settling in the handsomely comfortable driver's bucket, and after a quick familiarization with the slightly changed arrangements of panel switches and controls, it was at once evident that here is a car to make the most selective and demanding buyer completely happy.

Where are the satisfactions? Well, call it a Jaguar "feel," or what you see in a look around from the driver's seat for extra added attractions. There's the adjustable steering wheel, for example, mounted as of old on a twisting column retainer that is a hallmark of the manufacturer. The suspended pedals, the easily readable gauges, the luxuriousness of upholstery and interior, the long look through the non-distorted curving windscreen past the nose to the street.

Switch on, and engine response is immediate. The three two-inch SU carburetors whistle—on automatic choke—for a time until the temperature gauge approaches 70°, indicating the safe period to commence driving. Soon it's discovered there is no such thing as a "best" gear; even fourth produces a torque surge, and shifting

down is not really necessary over 1500 rpm (about 25 mph in top). Quick stabs at the accelerator pedal cause a formidably fast rev peak; in the lower gears this produces an incredible acceleration. No long pull, here.

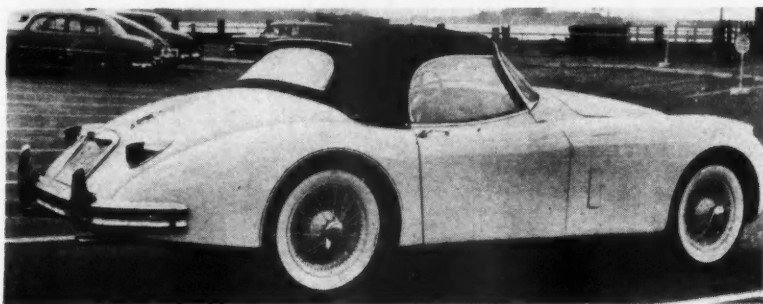
The use of engine for deceleration is another driving method which can be discarded. Twelve-inch-diameter brake drums, with two leading shoes on the front wheels, bring the car to swift and sure speed reduction, using only a bare minimum of pedal pressure. One pump of the foot and the pedal backs up to within a half-inch of the top.

Steering, by rack and pinion, is controlled by a 17-inch-diameter wheel which makes  $2\frac{3}{4}$  turns lock-to-lock. Steering seems to be lighter than on previous models, with a response that perfectly suits the outsize accelerating powers of the car.

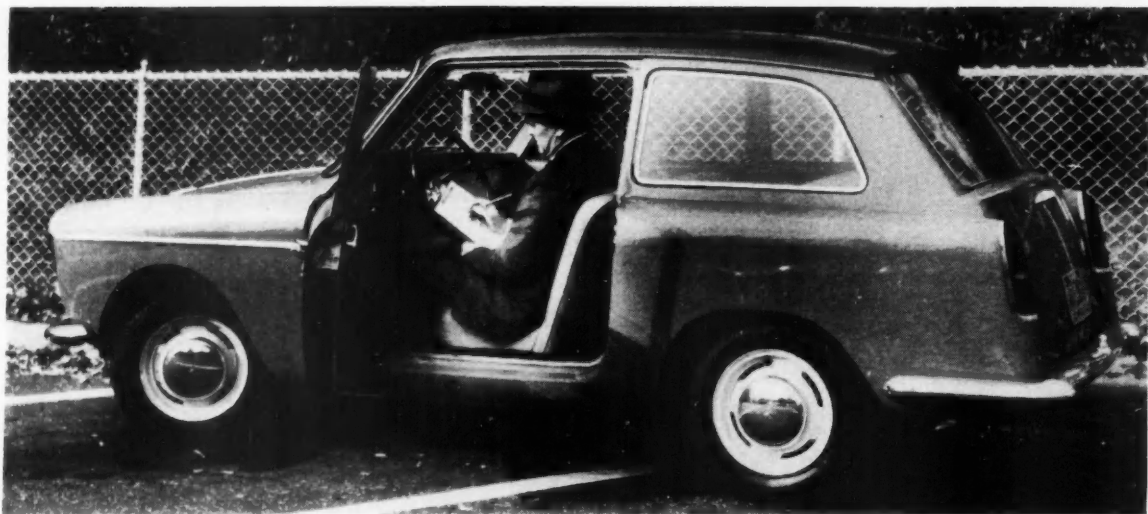
The car has finally gotten over what seemed in recent years a clumsy and awkward attempt at stylishness. I could find no fault with the new, unbroken lines of design, although the top is more easily raised and lowered by two, rather than the advertised single operator. Bumpers fore and aft are sturdy and utilitarian in that real protection is afforded to body, fenders and lighting equipment.

For the man looking for maximum performance from the XK-150 engine, the addition of the "straight port" cylinder head, the three carburetors, and domed pistons that boost compression to 9 to 1, the "S" is hard to beat. Combining a 250 bhp @ 5500 rpm, 240 pounds-feet torque @ 4500 machine with the traditional Jaguar reputation for quality workmanship, is one sure way to attract discerning buyers.

—Steve DuCosta



*New Jaguar is no longer a true roadster because of roll-up windows but few owners will complain. Top provides greater weather protection and better visibility than on any previous model.*



Austin's new utility A-40 is a radical departure for British firm. Styled by Farina, its Italian influence is readily apparent inside and out.

### Driving the Austin A-40

**T**HE PIT AREA, East 75th Street, New York, was cleared and we threaded our way to the starting grid, 2nd Avenue, to begin Saturday practice with our well-prepared Austin A-40 Saloon.

The Farina-bodied machine looks deceptively like a toy station wagon. A squared-off rear section is split horizontally but only the bottom half opens, revealing a roomy luggage and spare tire area. Tail lights, housing a three-bulb vertical lineup of stop, braking and turn lights, are massive. If more space is desired, the rear seat, which could carry three slender adult occupants or several youngsters, hinges forward. In front, the individual foam rubber seats are comfortably arranged and adjustable forward or reverse.

A driveshaft tunnel is pierced to house a short stick gear lever. The conventional H pattern begins at top left to provide four forward speeds, synchronized on three. Reverse is found by passing a gate to the right and down.

Quickly we checked our instruments while waiting for the green starting signal. No tach. What? No oil pressure gauge? How much gas do we have? Well, anyway, there are some pretty little glass buttons. If they aren't lit up maybe we're okay. Speedometer reads to 80 mph. There's a trip meter. The aluminum handle, not quite like anything we've seen before, jutting to the right from the steering column controls headlights. Down toward the floor is OFF; first notch up is parking lights, next is driving, last is high beam.

The steering wheel turns  $2\frac{1}{2}$  times from lock-to-lock, but turning circle is a long 35 feet. Windows on the two doors push-pull up and down by means of an attached lucite bar mounted a half-inch from the top of the glass, inside. Rear windows push outward five inches. Wind deflectors operate as usual, in and out with an inside locking lever.

Upholstery is neatly trimmed in a plastic, easy-to-clean leatherette. Two inches of foam rubber crash padding protrude from top of dash. Door handles have a stop that locks the windows in any position, but windows miss seating when down by about two inches.

All pedals are suspended, including accelerator. Emergency brake is mounted between front seats.

The light changed to the starting green and the 948cc A-40 responded like a rabbit in a quick-peaking first gear and a faster change to second, its "surging" gear. In the middle of a 90-degree left turn the gear change was smooth and receptive. Steering the car is a real joy; the wheel is satisfyingly heavy and suspension has a "beefed-up" feel without jumpiness. Braking, which we had to do because the light at 74th Street was red, was comparably heavy and sure, giving an impression of comfortable safety found on much heavier—and more expensive—machinery. Later, several quick

stops under our regular braking test conditions failed to produce fade.

Now the "event" began in earnest. Through the wide rear view mirror we saw bearing down hard the Fangios of New York, riding the Avenue signal lights on the split second. With a sweaty palm gripping the gear lever in first gear we brought engine revs up to approximately mid-range and as the first cabbie roared alongside we took off. For a moment we were literally surrounded by Juan Manuel Taxis, but noting the green lights flashing for several blocks distant we stayed in position until we reached a peak of 45 mph then backed off to lead the pack well over to the left half of the one-way-downtown course.

The A-40 cruised pleasantly along at the head of the pack, in rhythm with the course marshalling lights. Ahead, danger loomed in the shape of gargantuan trucks, trucks-and-trailers, semis, delivery vans of every description, and more taxis.

But in a terrific display of vigorous acceleration and emergency braking, the rugged little A-40 at length found her goal: Washington Square, near the bottom of 5th Avenue, 80 blocks from the starting grid. Returning via this more civilized route, it was pleasant to note literally dozens of pedestrians and other drivers taking particular notice of the bright machine. Comments were topped by one bystander, who yelled, "Hey, that's sharp! Is that the new Studebaker?"

—Steve DeCosta



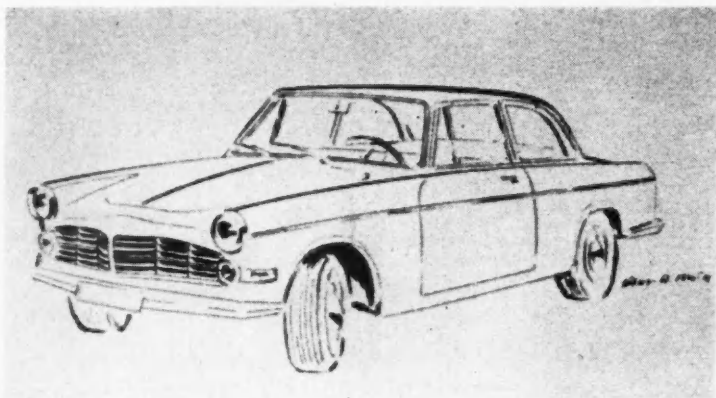
Cargo may be loaded through rear half-door with additional space available when seat is folded down. Car has good rear visibility.



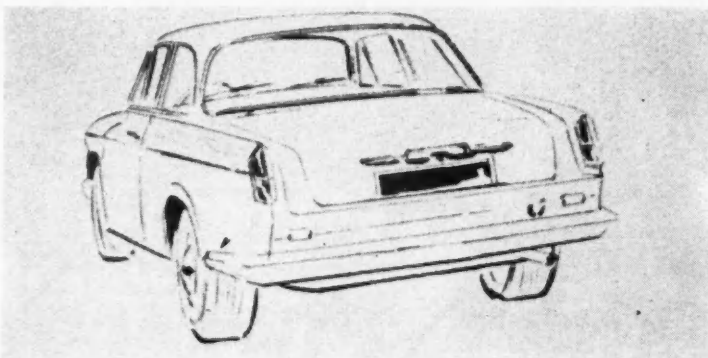
continued from page 16

single-seater formula cars. Use of a rear-mounted Coventry Climax engine gives the front bodywork an extremely low profile, and maximum height at top of the windscreen is 33½ inches. With very little body overhang, overall length is only 11 feet, eight inches. The Monaco is designed for long-distance events and will be competing in the 1½- and two-liter classes. Top speed is 160 mph. Later, when the 2½-liter Climax engine is available, it will be a very potent racing machine indeed. Graham Warner, managing director of the Chequered Flag Garage in Chiswick, England, has placed the first commercial order for the two-liter version and hopes to run it at Sebring . . . New Lister Jaguar, designed by Frank Costin, shows lower and cleaner profile with a high tail meeting the wrap-around windscreen. Driver comfort has been held all-important with seating and interior space laid out accordingly. Low frontal area and an expected low coefficient of drag should yield maximum speeds in the region of 180 mph from 250 bhp. The 3.8-liter Jaguar engine develops 300 bhp which should make performance interesting. Factory team drivers for 1959 are Ivor Bueb and Bruce Halford with other drivers to be added as events require . . . The Austin A-55 is the third of the BMC models to be given a body based on designs by Pinin Farina. The new four-door unit-construction sedan has the same sharp-edged treatment and prominent tail fins as the Wolseley 15/60 and Midget, but the front, side trim and interior details are altered.

continued on page 66



DRAWINGS BY HANS MUTH



Drawings depict prototype of BMW's long awaited 1600cc sedan, expected to go into production sometime this year. Car has had so many unexplained delays that exact production is not certain. Rumors are heard in Germany that Michelotti is designing new body.



Peruvian natives seem strangely incongruous watching stock car road race on tricky Atocongo circuit. Eduardo Dibos drove this Ford to a third place behind U.S. driving ace Jim Rathmann who won, with Sergio Neder, second. Nearly 150,000 spectators watched along 22.6-mile course.

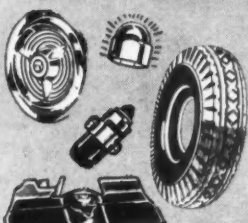


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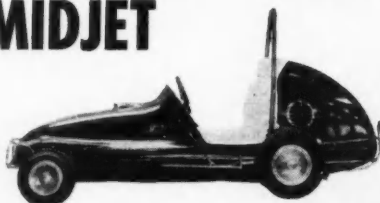
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# 3-WAY COMPARISON

by Charles Nerpel, Technical Editor

## *What type of car was tested?*

**DODGE** Custom Royal series four-door sedan, powered with the 361-cubic-inch engine with four-barrel carburetor, 10.1 to 1 compression ratio, developing 305 hp. A pushbutton-controlled three-speed TorqueFlite automatic transmission driving a 2.93 rear axle completed the drivetrain. Power-assisted brakes, power steering, radio, heater.

**MERCURY** Montclair series four-door hardtop cruiser with 383-cubic-inch engine that delivers 322 hp, has 10 to 1 compression ratio and a four-barrel carburetor. Drivetrain is a Merc-O-Matic dual-range automatic transmission driving through a 2.71 rear axle. Power steering, power brakes, radio and heater.

**PONTIAC** Catalina series with 389-cubic-inch engine but optional 10 to 1 compression ratio, special cam and four-barrel carburetor that made a 300-hp engine out of the standard 260-hp. Hydra-Matic four-speed automatic transmission and a 3.08 rear axle ratio completed the drivetrain. Power brakes, power steering, radio and heater.

## *How well is it put together?*

**DODGE** Doors, hood, rear deck, and glass areas are well fitted and the rubber sealing is neat with few unfinished edges. Headliner and fabric upholstery are in the modern trend of increased use of synthetics. The windows in our test car were a little hard to wind and the driver's swivel seat had an annoying rock to its adjusting track. The car was painted black, a color that is quick to reveal body metal wrinkles. The door panels, hood and top did not show anything but smooth contours under the equally smooth paint job.

**MERCURY** Production and quality control so far are good, despite the fact that the factories have been pushing to supply dealers' demands. General finish and paint are good, doors and deck lids fit well, but some of the rubber sealing strips look like they should be held on by something other than adhesive. Interiors, upholstery, headliner, and floor mats fit well, and the choice of fabrics includes plastic combinations to suit a wide variety of tastes. Body and floorboards have become very unitized and provide more production line accuracy. continued



## MERCURY

Which of these Mid-Price 3 has the  
BEST ECONOMY?  
MOST COMFORT?  
BEST PERFORMANCE?  
MOST QUALITY?  
BEST BRAKES?  
and is THE BEST BUY?



# ROAD TEST



PONTIAC

DODGE



**PONTIAC** Doors, hood and luggage lid fit well, as do the trim and sealing strips. Overall finish looks good with General Motors' new acrylic lacquer. Interiors show no ragged edges and headliners, dash cowlings and upholstery fit well with no wrinkles. Body feels solid and doors close and latch without rattles.

### *Is it easy to get in and out of?*

**DODGE** Recessed door handles require an underhand grip to operate, which is not inconvenient. Doors open wide, and leg- and headroom are adequate for easy entrance and exit. Swivel seats for front passengers are an aid to the long-legged or the tight-skirted. Boarding the car from high curbs poses some problems but this is the price we pay for lower, better balanced cars. As you must with all the newer models, bend just a little more.

**MERCURY** Stretching the wheelbase four inches over last year's model to reduce transmission hump in front floor section also added a little more entrance and exit room for both front and rear passengers. Loading from normal curb height will be no problem as the bottom of the door is almost a foot from the ground. This is where thinner roof lines really show to advantage, as they allow reasonable headroom when entering without getting it by lowering floor line too much. Not quite so much bending necessary to board or unload, but as with most of the new models that do a good job of getting the driver up high enough to see, there is some sacrifice of clearance between lower steering wheel rim and seat.

**PONTIAC** Four-door hardtops always seem to have a little more door room, due to the pillarless construction. As we have to bend just a little more with all the new lower models, there is that open space between doors, especially with the windows down, that emphasizes room. Steering wheel is a little close to the seat for the long-legged, but rear seat passengers have room to spare through the door openings. Again a word of caution, don't rest your fingers or elbow in the center pillar if you anticipate someone closing either door. You'll get pinched real good.

### *How is the driving position?*

**DODGE** Driving position is good with fairly straight seatback and good wheel angle at a height that does not blank forward view. Pushbutton transmission control on dash operates with left hand. Large concave buttons well spaced are more easily identified by feel once their position is learned. Heater, ventilator and defroster are also button-operated and are most convenient to driver only. Disappearing ashtray is a long reach for the driver and for passenger. Folding center armrest will ease driver on long stretches but might interfere with his elbow on winding roads.

**MERCURY** Driving position is good, especially with generous seat height from floor. Clutchless floorboards that eliminate use of the left foot unless it is employed for braking, can be pretty uncomfortable if the seat is too low. Wheel position is good, shifting quadrant conventionally located, as is the turn-signal lever. Foot-operated parking brake has push-down release, and other controls are convenient to the driver. Left-hand key starting needs getting used to, heater controls to right of steering column are long reach for passenger, and a super-long but very shallow glove compartment will discourage carrying anything but long, thin gloves. Long-legged drivers will have no problem, as there is a great gain in front compartment length over last year's car.

**PONTIAC** Wheel angle and seat position are compatible to comfort without strain to see or reach pedals, but the long-

legged might find legroom and thigh support a little short even with maximum seat adjustment. Conventional shifting quadrant has calibrations in window on lower dash panel and quick reading is difficult. Foot-operated brake pedal releases with hand knob under dash, and heater and vent controls are close to right of steering column. Separate fresh air controls for driver and passenger and central radio location, plus large glove compartment, are rather conventional.

### *Is the instrument panel well laid out?*

**DODGE** It is strange how certain round, oval or triangular shapes will automatically draw the eye to their center. This is the case with the Dodge panel except that the first thing drawn into focus by the eyes is a knight's helmet in bas-relief, rampant on what could be a clock if it had hands. Swinging the gaze to left and right will pick up easy-to-read fuel, oil pressure, and temperature gauges, while almost hidden in a long-hooded slot is the speedometer. It is calibrated with white vertical lines and has no dial hand, the speed being noted by the colors that fill up the spaces between the lines. It starts out green, goes to yellow, and as the speed reaches 50 mph, changes to red. In our opinion, it is not easy to read, especially at night.

**MERCURY** Instrumentation suffers a little, as the optional automatic seat control panel and the heater control panel squeeze the tape-type speedometer and the small rectangular engine instruments between them. Internal reflections pick up on the instrument cover glasses and they can be seen easier at night than on bright days. Three-spoke wheel blocks off shifting quadrant indicator in certain positions.

**PONTIAC** Deeply hooded and centrally located clock-type speedometer is easy to see and read, although cover glass does pick up reflections under certain light conditions. Ammeter, oil pressure and engine temperature are indicated by lights, although they are housed in hooded dial as is the fuel gauge. These cover glasses also pick up reflections, but night visibility, controlled by rheostat, is good. Shifting indicator has now become part of the instrument cluster and is a lot easier to see at night than in daylight.

### *How is vision?*

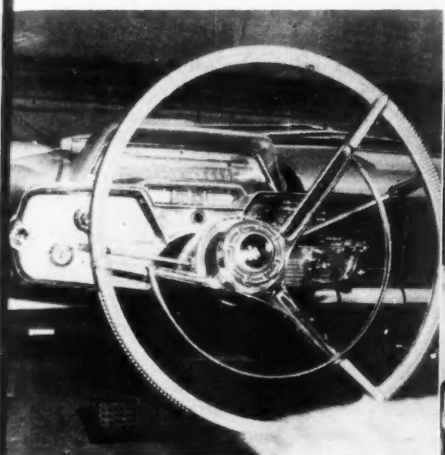
**DODGE** Front, rear and side vision is good, making the most of increased glass area with minimum windshield distortion and corner post obstruction. The center-cowl-mounted rear mirror does block off forward vision of shorter drivers and if the bracket is tilted low enough to eliminate this, only the tops of following cars can be seen. Wipers are electric, one speed, (variable speed optional), and clear ample glass areas. Foot-operated washer squirts straight up and slight forward motion spreads water evenly over wiper area. Slight reflections of cowl in windshield under certain light conditions do not cover most used forward views. The optional remote control side mirror is really great. A small "joy stick" on the dash allows the mirror to be easily set to any desired angle of view.

**MERCURY** The driver has the feeling that he is surrounded by nothing but visibility, and the relation between wheel and seat gives good vision over wheel rim. With so much more glass wrapped into the top, and lower roof lines, rear mirror position has become a problem. If hung low enough for the slightly short, the tall driver finds it takes a big piece out of his upper forward vision in the signal light area. Most of the new models of all makes tested so far this year have failed to provide a universally good interior mirror position. Constant improvement of compound bending of windshield and rear glass has reduced distortion a great deal, but sun visors are becoming more important as glass area goes higher and higher into the front top. Sixteen-inch parallel wiper blades that clean 43 percent more windshield area than last year's models, are electric two-speed.

continued



*Dodge side mirror has handy dash-mounted "joy stick" control. Wide door openings and ample legroom provide good entrance and exit but front seat is a little short.*



*Mercury's instruments are crowded by seat and heater control panels. Longer wheel-base has increased interior legroom and lowered transmission and driveline bump.*



*Pontiac instruments are deeply hooded and well positioned for easy reading. Hardtop models seem to have more entrance room with their door-height center pillar.*



**PONTIAC** Compound curved front and rear glass, plus pillarless construction of the hardtop and thin windshield posts, make the Catalina a real observation booth. There are slight side distortions on windshield and some sunlight problems on the shoulders of the rear seat at certain times of the day. Strong reflections of top of cowl in critical portions of the windshield when driving into the sun are annoying. Foot-operated washers and electric wipers clean the most used sections of windshield.

#### *Does it start quickly?*

**DODGE** Hot or cold the engine fires right up and warms quickly. Foil and fiberglass under intake manifold keep carburetor cool enough to give good mixture for hot starts.

**MERCURY** Starts well on cold mornings and warms up quickly with good heat riser and water thermostat control. Hot starts, after the engine heat travels through the manifold and into carburetor body without passing air to keep it cool, require a little more cranking. Starters now turn engine faster and this has helped the hot start.

**PONTIAC** The automatic choke and manifold heat riser both do a good job of aiding quick starting and fast warm-up. Cold starts were accomplished with a few turns of the engine, and when hot the engine fired right up with a flick of the switch.

#### *How is it to drive in the city?*

**DODGE** Good visibility, quick and easy steering and adequate horsepower for any reasonable acceleration make city driving as easy as could be expected from a vehicle 18 feet long. Parking or negotiating the sharp turns of driveways or ramps is simple with the 3.5-turn-lock-to-lock steering. The wheels are not sensitive to car tracks or shallow ruts. There is ample upsweep in the rear for most driveways, but the lower outside edges of the front bumper will scrape if you don't hit the ramp dead center. Tire and road noise are high enough to be annoying, even at moderate speeds, especially on black top or slightly corrugated surfaces.

**MERCURY** Good visibility and quick but easy steering reduce the effort of in-city traffic driving. Takes car tracks and drainage dips well and normal driveway ramps will not scrape front or rear overhang. While wheelbase and tread have been increased, overall length of about 18 feet makes parallel parking about the same as previous models except for the power steering, which is quicker and requires fewer turns lock-to-lock. Poorly paved streets and chuckholes will smooth out under Mercury's suspension. Brake dip has been reduced by tilting the upper front control arm—necessitated by the extra weight on the front wheels caused by moving the engine farther forward.

**PONTIAC** There is a feeling of "bigness" to the car, due probably to the wider tread as total width is only .7 of an inch more than the Dodge. This is more of a visual thing, as handling and visibility that allows the driver to see almost to the extreme front and rear ends make city traffic driving a pleasure. Parking areas will seem to shrink though, as a length of close to 18½ feet does not leave much room on either end of a 20-foot parking space. Wider tread makes streetcar tracks unnoticeable, and the wheels will span most any track width. Slight upsweep in the rear clears most driveway ramps, but fully loaded rear seats or luggage compartment require some caution on such ramps or deep dips to avoid bottoming and scraping.

#### *How is it to drive in the open country?*

**DODGE** Plenty of power under the throttle foot at high cruising speeds with low engine and transmission noise. However,

the road noise transmitted from the tires is loud, and normal conversation is difficult over 60 mph. Expansion strips in the highway are heard quite clearly as the tires thump over them. This is all amplified on the off-pavement dirt roads or gravel secondary roads. The wind whistles around windwings when closed and there are mild rushing sounds with windwings open. The car tracks well at speed and does not wander even on varying cambers of right-hand lanes. The speedometer is six mph fast at speeds from 50 to 80 mph.

**MERCURY** Good control and plenty of power for passing would be more enjoyable if wind noise were lower. Every effort has been made to effectively isolate engine, transmission and road noise from the passenger compartment but the howls of the wind at cruising speeds around windows and wings, opened or closed, are very annoying. If the regular run of speedometers are as optimistic as that in the test car, one need never fear being stopped for excessive speed as there was an error of from six to nine miles per hour in the 30-to-60 mph range. Gravel or corrugated dirt roads are well handled by the suspension and real back country ruts will hardly be noticed with the power steering.

**PONTIAC** Smooth, quiet cruising at any reasonable speed with good tracking that requires a minimum of wheel correction, even on cambered roads. Wind noise level is not too high with the side wings open and not much louder with the side windows down. Good insulation is provided for engine and transmission noise. Tire noise and road rumble are well isolated from car's interior. Off-the-pavement gravel and dirt roads are ironed smooth with the coil springs on all four wheels.

#### *How is it to drive on curving roads?*

**DODGE** Sweeping curves or sharp turns can be handled with ease with this torsion bar front suspension. Attempting the most severe cornering on one of the reverse camber turns on Riverside International Raceway "proving grounds," we had the inside rear wheel spinning and smoking under hard cornering and full throttle, yet maintained excellent control without bottoming the low side or washing out front wheel control. These are severe conditions but a good indication of what is possible should overspeed into an unmarked turn catch the driver by surprise. Quick steering with positive response can make the chore of mountain driving a pleasure.

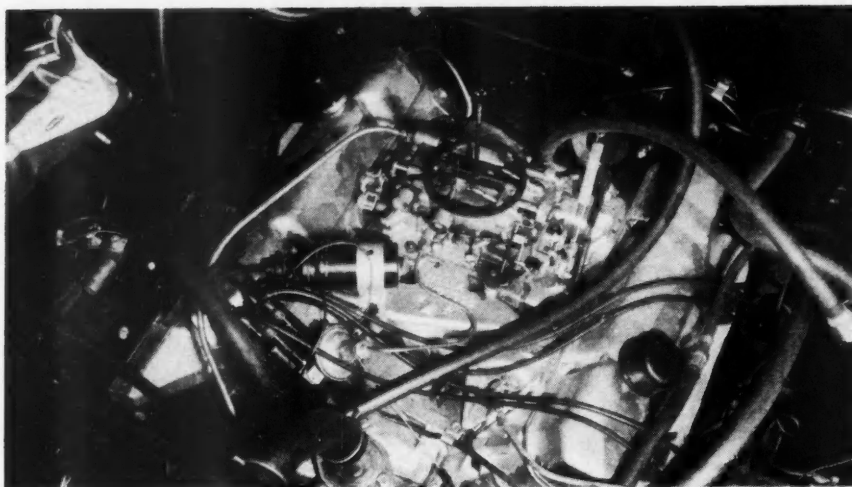
**MERCURY** Mild curves at normal speeds can be handled well, but beyond that there is a lot of uncomfortable lean and in severe cases of that unmarked turn that takes us by surprise, a lot of understeer. Rear loading, by passengers or luggage, helps this by equalizing the heavy front end but there is still a lot of lean that is more than a little uncomfortable to the rear seat passengers.

**PONTIAC** Very stable on curves, mild or sharp, with lean greatly reduced due largely to wider tread and everything else that was moved farther outboard to reduce side overhang. More turns are required on the steering wheel than the Dodge but the car goes well in the direction in which it is pointed. On really fast, sharp turns where we try to duplicate the unmarked curve, all four wheels stayed on the ground and there was no spinning or smoking of the inside rear wheel. As many times as we have toured the Riverside International Raceway course at speed, there is always some apprehension with a new type of suspension, chassis, brakes or steering. Despite dispelling this with some warm-up laps, the illusion of greater width seemed emphasized as we headed the Pontiac into the first sharp uphill turn. Over that wide hood the curve seemed about a third of its regular width, but got wider each time around as the car stuck like glue in the groove and we became accustomed to the illusion of great width.

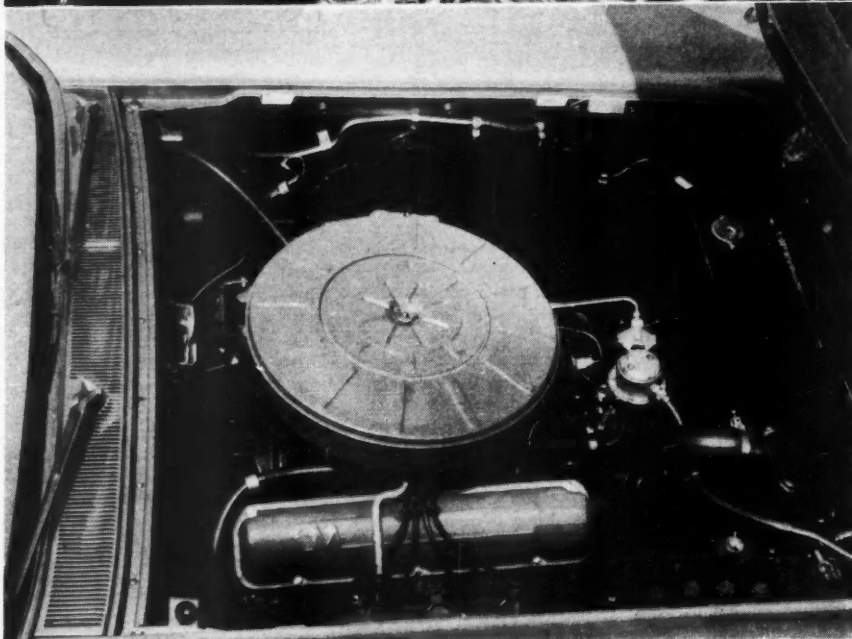
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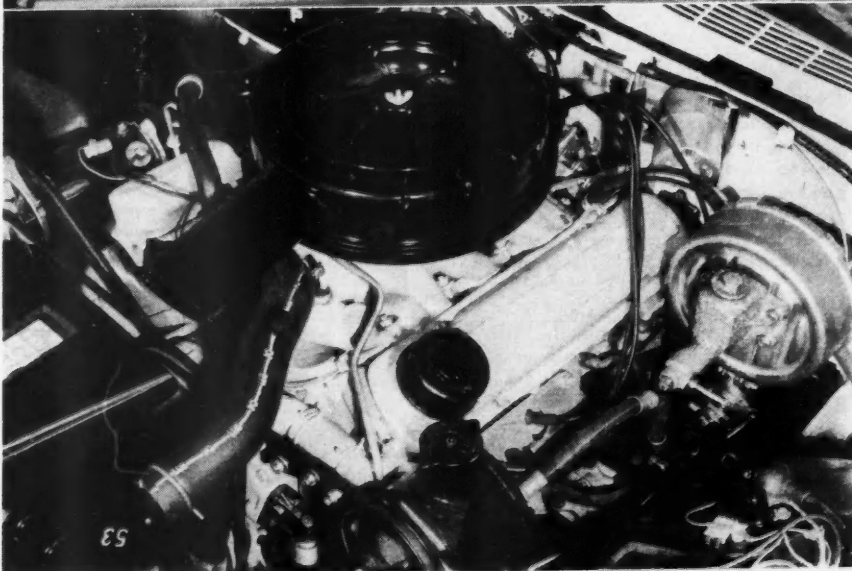
*With large air cleaner removed, Dodge engine is easy to service. Intake manifold is insulated by foil and fiberglass to eliminate hard starting due to overheated fuel mixture in hot engines.*



*Mercury engine offers a lot of easy-to-service features. Fuel pump is high on the forward part of the block where it is exposed to good cooling air that should ease hot weather fuel failures.*



*Pontiac engine is easier to service than previous models due to new engine accessory brackets, but location of plugs under exhaust manifold makes caution necessary when the engine is hot.*



## How do they compare in ACCELERATION?

	DODGE CUSTOM ROYAL (305-hp engine)	MERCURY MONTECLAIR (322-hp engine)	PONTIAC CATALINA (300-hp engine)
from standing start			
0-45 mph	7.2	7.0	6.8
0-60 mph	11.3	10.2	10.8
quarter-mile	17.9 and 77 mph	17.6 and 81 mph	18.2 and 77 mph
passing speeds			
30-50 mph	4.9	4.8	4.5
45-60 mph	4.0	5.2	4.2
50-80 mph	13.1	11.2	12.4

### How does it climb hills?

**DODGE** Plenty of power for this plus an intermediate gear selector for the automatic transmission that allows engine braking at the push of a button. This D-2 position will shift into high at around 75 mph and shift back down at 55 mph, giving a good range for hill climbing and downgrade deceleration. For that real steep one, there is first gear with button selector.

**MERCURY** Dual-range automatic transmissions such as the Merc-O-Matic are positive in their action and provide just about all one needs for most hills. These passenger cars are no jeeps but it is surprising how well they pull in low range settings. D-2 settings provide good engine braking, and while they do shift into high gear near peak rpm, this is also a great winding-road gear as it provides engine braking. Built into this setting is a hill-holding feature that prevents car from rolling back.

**PONTIAC** Dual-range Hydra-Matic with four forward speeds gives a good selection of gears for hills and deceleration. Downshift from fourth to third occurs at about 40 mph at part-throttle and at full-throttle climbing at about 60 mph. With the selector in LO good second gear braking is available. An automatic upshift for all forward gears prevents over-revving engine, even from standing start in LO lever position. Avoid wheel spinning on those off-pavement back country grades or you might stall the engine with a protective upshift should engine reach rev limits.

### Does it have good acceleration?

**DODGE** Not quite as good as last year due to higher axle ratio but considerably better miles per gallon performance. The specifications on this engine are identical to last year's model, but playing with slightly different cam contours, engine heat riser and manifold, and higher rear end gear ratio have given noticeable improvement in reducing that monthly gasoline bill with adequate speed and acceleration for today's highways. (See table above.)

**MERCURY** Carrying over two tons of curb weight and a rather high (2.71) rear axle ratio, the Mercury accelerates pretty well. Off-center mounting of axle on rear springs reduces axle wind-up more on acceleration than on braking and rear wheels dug in well with a minimum of take-off spin.

**PONTIAC** Very close to the Dodge, but not as fast as the same engine with three two-barrel carburetors and heavy-duty valve springs used in last year's tests. Manually shifting the automatic transmissions by starting out in LO can produce some

better times, but for basic comparisons MOTOR TREND has been making all 1959 acceleration runs in DR or drive gear and using fifth wheel speedometer.

### How does it stop?

**DODGE** Considering that 230 square inches of brake are available as standard equipment on Dodge station wagons and four-door hardtops, the 207 square inches supplied on the test sedan were just within the limits for normal driving. Under the rather mild pressures of 60 to 20 mph deceleration at 15 feet per second per second, the brakes became erratic with the fourth such stop. The first three such tests produced hands-off braking. There was some wheel grabbing as the right front brake locked on the fourth attempt, followed by right and then left front wheels grabbing on the fifth stop, accompanied by rear brake smoking. Once both front brakes finally took hold, stopping at the test rate required only slightly more pedal pressure. Allowing the brakes to cool for five minutes produced the same alternating right and left front wheel pull but a good stop, as continued pedal pressure overcame this situation. Bigger brakes and open wheel covers for better cooling seem the best solution to this problem.

**MERCURY** The self-adjusting 205 square inches do a good job of stopping this car with its two-ton curb weight. Four good 60 to 20 mph slowdowns at 15 feet per second per second brought some odor and slight smoking from the front shoes, but there was only slight right front wheel grab on the fifth attempt with slight increase in pedal pressure necessary. The car will naturally stop better with extra weight in the rear, but under these conditions there is a lot of axle windup and it unwinds with a jerk as the car comes to a halt.

**PONTIAC** We were able to make four good 60 to 20 mile per hour stops in rapid succession with a 15 feet per second per second rate of deceleration before the pedal required more pressure. An additional five attempts pulled the car to the right and required a lot of pushing on the pedal, but we did stop. The first four stops were good and there was only slight smoking as the tests continued, despite the fact that this car has only 170 square inches of effective braking area. It is possible that greater width contributes to reducing front dip on braking and allows the rear brakes to do a little more work.

### Is it tiring to drive?

**DODGE** While the padding is a little soft for good back support, the more erect sitting position does a lot to reduce driving fatigue. Seat itself is on the short side for good thigh support

## How do they compare in ECONOMY?

	DODGE CUSTOM ROYAL	MERCURY MONTCLAIR	PONTIAC CATALINA
stop-and-go driving	13.9 mpg for 185 miles	12.8 mpg for 150 miles	11.2 mpg for 166 miles
highway driving	16.1 mpg for 204 miles	15.1 mpg for 180 miles	15.1 mpg for 239 miles
overall average	15.0 mpg for 389 miles	13.9 mpg for 330 miles	13.8 mpg for 405 miles
steady 50 mph	16.1 mpg	15.1 mpg	15.1 mpg

fuel used: mobilgas special

but good wheel position, forward vision (if you are tall enough to clear the cowl-mounted mirror) and well placed pedals reduce the tendency to slump because of poor spine support. Center folding armrest in front seat allows some elbow support for straight driving but interferes slightly on turns.

**MERCURY** More depth between seat and floor and plenty of front legroom are great contributors to reducing fatigue on long trips. Back support is better than average and helps maintain a good over-the-hood view without the driver hanging on to the wheel. The physical effort of driving is no longer a big factor but fatigue can be caused by other things, one of which is noise. The mechanical and road noises are low but wind noise, especially buffeting around the window openings, gets to be annoying and tiring after a short time at cruising speeds.

**PONTIAC** There seems to be a general trend toward getting a little more interior room in most of the late-model cars by cutting short the front seat depth. This decreases thigh support, especially for the driver whose position is rather limited by the functions of driving. Padding is a little on the soft side, providing only mediocre back support. Seat adjustment would have another notch or two rearward for the long-legged driver, but wheel and controls are conveniently placed and little physical effort is required, even on winding roads.

### What kind of mileage does it get?

**DODGE** For a car of this size a happy medium has been hit that gives adequate but not sizzling acceleration with good mileage in town and on the highway (see table above). One four-barrel carburetor furnishes enough fuel per gulp to provide crisp passing speeds and comfortable off-the-signal acceleration with good steady highway cruising economy. Steady 50-mph fuel bottle test runs (see chart page 33) produced exactly the same mileage as our highway driving which was considerably over 50 mph most of the time but included slowdowns for traffic and maximum acceleration for passing.

**MERCURY** Considering the advertised horsepower and the engine-driven power accessories on the engine, the mileage was very good. The 2.91 axle listed as an option over the 2.71 ratio would improve acceleration and still maintain reasonable fuel consumption. Consistent all-out maximum acceleration starts will cut any car's mile-per-gallon average way down, and big cars like Mercury with big engines are a great temptation to the heavy-footed driver. Steady 50-mph fuel bottle tests showed exactly the same mileage as highway averages where speeds were well over the test speed most of the time and also included full-throttle passing and the acceleration necessary after normal

highway traffic slowdowns or trailing along behind slow trucks.

**PONTIAC** We were a little disappointed with city driving gas consumption. This would improve with economy engine and higher rear axle ratio options, but the test car is a real good highway cruiser, as evidenced by the mileage differences in city driving, highway driving and steady-speed fuel bottle tests. Our steady-speed fuel checks with a tenth-gallon fuel bottle brought out some interesting facts and proved more conclusively that this engine was best for long highway trips. At steady 50-mph speeds our mileage showed a consistent 15.1 mpg. Ordinarily steady 50 mph is the maximum standard for our fuel tests, but to prove a point we ran some steady 60 mph runs and recorded 16.8 mpg.

### How does it ride?

**DODGE** There is a solid feeling to the ride but considerable road noise is present. Increasing tire pressure did not affect this noise level but did improve handling and reduced tire squeal. Good shocks keep body lean down except on extreme cornering. Rear seat passengers have good leg- and headroom.

**MERCURY** Ride comfort on fairly straight roads is good, regardless of the surface. Excessive lean on curves and that unwind after stop are very noticeable, as is the wind noise. Rear seat passengers have plenty of room, also plenty of glass to let that sun hit the shoulders when it is still high enough above the horizon to have plenty of heat. Unitized body and floorboards give a solid rattle-free feeling.

**PONTIAC** Excellent is one way to describe the Pontiac's ride. It's also quiet and comfortable, with wind and road noise at a very low level. Rear seat passengers can enjoy the observation car visibility of greater wrap-around glass with some sun problems on the neck and shoulders at certain times of the day. They will, however, be comfortable on curves and rough roads as a level ride is maintained under these conditions.

### How effective is the heating and ventilating system?

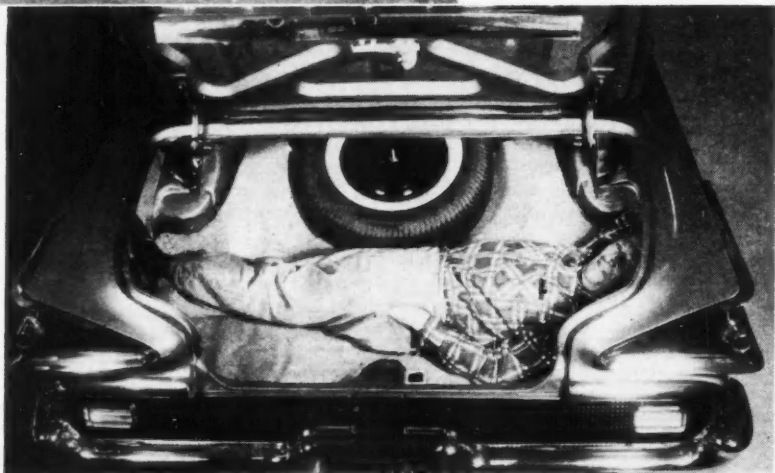
**DODGE** Pushbutton panel for heat, vent and fan control is convenient, with a fair amount of heat available soon after a cold start. Hot weather ventilation could be improved around the front floor area.

**MERCURY** Fresh air vents on each side near the floor give a good blast of outside air to feet and legs. Completely redesigned heating system steers outside air into heater chamber for blending according to heat-selector lever. New design is also compatible with air conditioner that can be dealer-installed by





*Horizontal forward-mounted spare is a long reach and is best removed or remounted by climbing into the rear compartment. Extreme rear section of Dodge has plenty of room for large bulky cargo but overloading is easy, so use caution to avoid bottoming.*



*Napping in rear compartments is not our hobby but just a way to show a comparative width. Rear opening is quite a bit smaller than available space but there is plenty of depth under Mercury's deck sides for all of those smaller pieces of luggage.*

*Pontiac's side-mounted spare leaves a lot of forward room for longer or odd shaped pieces of luggage. All of our road test equipment was carried easily with plenty of room left for suitcases. It is easy to overload due to accessibility and generous size.*





adding compressor and coupling with existing air and heater ducts. Single knob actuates servo control that handles vents, heater and defroster. Warm air is available soon after start.

**PONTIAC** Good heat is available soon after cold engine start, and fan does a good job of moving the warm air both to the passengers and the inside of the windshield. Heater controls are close to right of steering column, convenient for the driver and a long reach for front seat passenger. Windwing and air vent ventilation are good, the latter giving a good supply of outside air to feet, with controls for driver and passenger.

#### *How is it for normal servicing?*

**DODGE** Gas filler pipe is behind hatch on left rear fender. Engine compartment is well laid out for easy access to carburetor, distributor, hydraulic reservoirs and battery. Plugs are easy to reach but are under exhaust manifolds and a little tricky to service on a hot engine. Screw-on oil filter cartridge is serviced on grease rack.

**MERCURY** Front-hinged hood opens far enough for easy access to radiator, battery, dipstick, carburetor, and distributor. Plugs are really easy to get to, which is good not only for the mechanic but also for the home tuner. Oil filter can be serviced from the top and gas fill pipe is under hatch in rear center below deck lid opening.

**PONTIAC** Plug changing on previous models was a real chore due to brackets for hydraulic power system interfering, especially with the front plugs on left cylinder bank. New brackets and generous access holes simplify this operation for '59. Carburetor, distributor, battery, radiator and dipstick are easy to reach. Gas filler pipe is centrally located below rear deck lid opening. Oil filter services from grease rack.

#### *How is it for major tune-ups?*

**DODGE** Engine options often affect major tune-up costs but this car is pretty much an open book for ordinary adjustments. Average costs run about \$12 plus parts.

**MERCURY** Convenient and straightforward location of major tune-up components—especially the plugs and top forward mounting of the distributor—makes this car one of the easiest to service. The home tuner can take off the huge aircleaner and play with timing and mixtures to his heart's content. Major tune-up by a professional will cost about \$17.50, plus parts.

**PONTIAC** The cost of servicing modern automobiles varies according to how much labor is involved in removing accessories to get to the section that needs the work. The test model car provided good accessibility to most parts, even for the home tuner. Engine tune-up will run about \$17, somewhat higher on the higher horsepower optional engines.

#### *Does it have adequate luggage space?*

**DODGE** Trunk is roomy and long—so long that forward storage of spare requires shorter persons to get into the luggage compartment to remove or stow it. It is easy to overload such a generous rear deck, most of which is behind the rear axle, so be careful or your springs will let the chassis bottom if they do not have extra help.

**MERCURY** Central horizontal mounting of the spare on the rear axle hump gives clear flat space at most used rear of luggage compartment but cuts down on the ability to stow smaller pieces in this area and concentrates luggage weight well back of the axle. The large area that is available makes it easy to carry some fair-sized pieces of cargo, so be careful about overloading those rear springs with this extra weight.

**PONTIAC** All of our test equipment, including tools, cameras, and a rather bulky and hard-to-stow fifth wheel, were easily loaded in the luggage compartment with room to spare. Flat-mounted spare on right side of rear deck has ample room between it and deck lid to provide a usable shelf for large size suitcase. There is also good usable space on top of rear axle hump for smaller packages.

#### *What are the car's best points?*

**DODGE** Handling is the outstanding feature of this car. A lively steering ratio requiring little effort, plus the ability of the front wheels and the rest of the chassis to go in the direction they are pointed, will more than satisfy those who like to drive for the sheer pleasure of it. Good performance and reasonable fuel economy will satisfy the demands of those who want comfortable transportation.

**MERCURY** Mercury is one of the easiest cars to get in and out of and has probably the most generous front passenger compartment. There have been substantial increases in glass area, wheelbase, interior room, and tread over previous models. It is probably the most energetic effort on the part of Mercury since it ceased to be an oversized Ford. While somewhat shorter, it has the same overall width as the Pontiac, most of this increase going into wider seating area. It is big, handles well under ordinary conditions, accelerates very well and gives good fuel economy for an engine of this size. Styling, especially the rear end, is distinctive with its horizontal V tail lights. Body should retain its solid feel for many miles.

**PONTIAC** It is difficult to list Pontiac's best points without putting the new wide tread first. This improvement contributes so much to ride, handling, comfort and safety that other manufacturers are sure to follow. Well appointed and comfortable—with styling changes to go along with the mechanical ones—this car, with its four-speed automatic transmission, is a real highway cruiser. It is a big car with an air of solidity, little lean on curves, quick steering with a "feel" to it, adequate passenger space and good luggage capacity.

#### *Is it a good buy?*

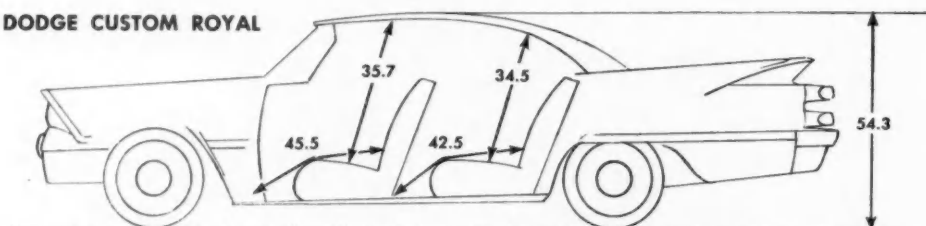
**DODGE** This boils down to pure finance, since performance, economy and construction are good. The suggested retail price is only slightly higher than one of the low-priced-three sales leaders, yet over the past three years the average depreciation is about \$525 per year, almost twice that of the Big Three.

**MERCURY** It seems to us, who test many cars and have seen the automobile develop from a curtain-flapping hack to the modern high-powered sedan, that the problem of lean could be solved by now. Earlier Mercurys of the 1950 to '53 period seemed to have a lot less of this and a lot better handling on sharp curves than the '59. There are those to whom this sort of thing is not important, but it should be considered in the light of speeds on modern highways and the 300-plus horsepower that anyone can buy and drive. Average depreciation over the past three years has averaged \$450 per year for the most popular models.

**PONTIAC** It is a good buy in this horsepower and price range. This engine is great for the long-mileage highway driver. The city dweller whose road trips are limited to daily freeway and in-town driving would do better to select an engine option that gives better fuel economy. All the middle bracket manufacturers are offering engine options that should be considered and studied on the basis of the type of driving for which the car is most used. The most popular models of this car have shown an average yearly depreciation of about \$465 per year.

## SPECIFICATIONS OF TEST CARS

### DODGE CUSTOM ROYAL



**ENGINE:** Ohv V8. Bore 4.12 in. Stroke 3.38 in. Stroke/bore ratio .82:1. Compression ratio 10.1:1. Displacement 361 cu. in. 4-bbl. carburetor. Dual exhaust. Advertised bhp 305 @ 4600 rpm. Bhp per cu. in. .84. Piston speed @ max. bhp 2591 ft. per min. Max. bmep 167 psi. Max. torque 400 lbs.-ft. @ 2800 rpm.

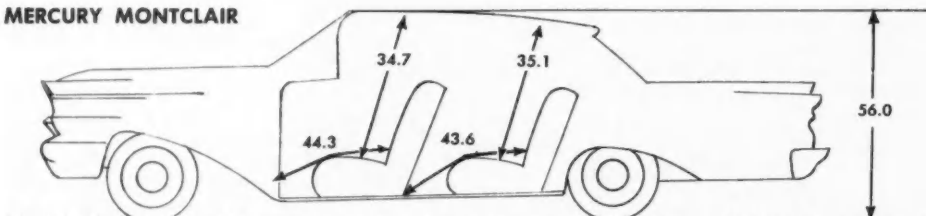
**TRANSMISSION:** TorqueFlite automatic 3-element torque converter with gears; ratios 2.45:1, 1.45:1, 1.00:1.

**CHASSIS:** Front suspension—Independent, lateral non-parallel control arms with torsion bars. Rear—Outboard semi-elliptical leaf springs. 8.00 x 14 rayon tires. Power steering rack and sector, 3.5 turns lock-to-lock, overall ratio 19.1:1, turning diameter 43.7 ft. Rear axle—conventional differential, ratio 2.93:1.

**DIMENSIONS:** Wheelbase 122 in., overall length 217.4, overall height 54.3, overall width 80, front tread, 60.9, rear tread 59.8, rear overhang 60.2.

**PRICE:** Factory-suggested retail price of test car equipped as described, including federal tax but not state and local taxes, delivery and handling charges or freight \$3916.

### MERCURY MONTCLAIR



**ENGINE:** Ohv V8. Bore 4.30 in. Stroke 3.30 in. Stroke/bore ratio .76:1. Compression ratio 10:1. Displacement 383 cu. in. 4-bbl. carburetor. Single exhaust. Advertised bhp 322 @ 4600 rpm. Bhp per cu. in. .84. Piston speed @ max. bhp 2530 ft. per min. Max. bmep 157.4 psi. Max. torque 400 lbs.-ft. @ 2400 rpm.

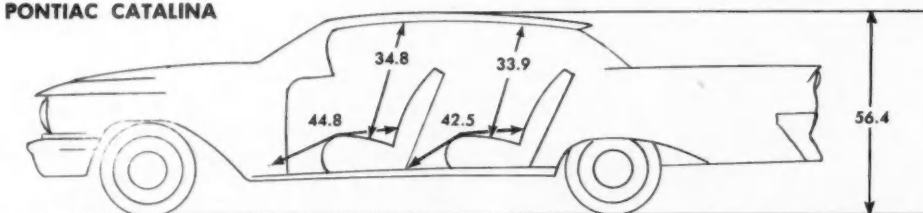
**TRANSMISSION:** Merc-O-Matic, automatic 3-speed torque converter with planetary gears. Ratios 2.40:1, 1.47:1, 1.00:1.

**CHASSIS:** Front suspension—Independent ball joint with coil springs. Rear—Semi-elliptical leaf springs. 8.50 x 14 tires. Power steering, recirculating ball and rack, 3.7 turns lock-to-lock. Overall ratio 20.5:1, turning diameter 43.2 ft. Rear axle—conventional differential, ratio 2.71:1.

**DIMENSIONS:** Wheelbase 126 in., overall length 217.8, overall height 56, overall width 80.7, front tread 60, rear tread 60, rear overhang 57.8.

**PRICE:** Factory-suggested retail price of test car equipped as described including federal tax but not state and local taxes, delivery and handling charges or freight \$4080.

### PONTIAC CATALINA



**ENGINE:** Ohv V8. Bore 4.06 in. Stroke 3.75 in. Stroke/bore ratio .92:1. Compression ratio 10:1. Displacement 389 cu. in. 4-bbl. carburetor. Dual exhaust. Advertised bhp 300 @ 4600 rpm. Bhp per cu. in. .77. Piston speed @ max. bhp 2875 ft. per min. Max. bmep 157.7 psi. Max. torque 420 lbs.-ft. @ 2800 rpm.

**TRANSMISSION:** Hydra-Matic, automatic fluid coupling with planetary gears, 4-speed. Ratios 3.97:1, 2.55:1, 1.55:1, 1.00:1.

**CHASSIS:** Front suspension—Coil springs with ball joints. Rear—Coil springs and control arms. 8.00 x 14 rayon cord tires. Power steering, recirculating ball, 4.06 turns lock-to-lock, overall ratio 22:1, turning diameter 42.7 ft. Rear axle—conventional differential, ratio 3.08:1.

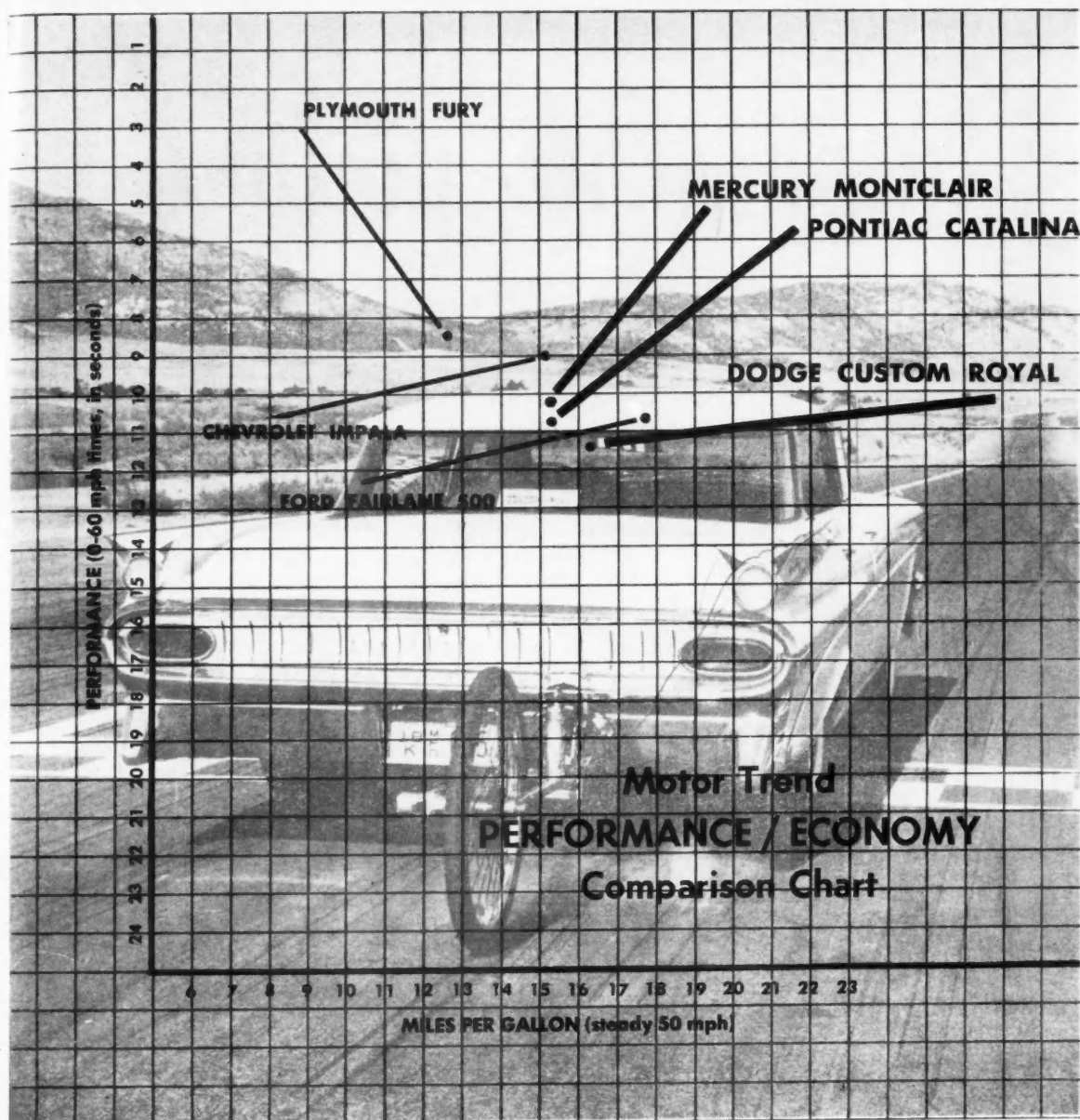
**DIMENSIONS:** Wheelbase 122 in., overall length 213.7, overall height 56.4, overall width 80.7, front tread 63.7, rear tread 64, rear overhang 56.5.

**PRICE:** Factory-suggested retail price of test car equipped as described, including federal tax but not state and local taxes, delivery and handling charges or freight \$3817.

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**E**ACH MONTH, as MOTOR TREND presents comparative road tests of cars as nearly as possible in the same price class, engine size and horsepower, and body style, we will plot the fuel consumption and acceleration times on the above chart. The higher the

point from the bottom line, the faster the 0-60 mph acceleration times. The greater the distance from the left vertical scale, the better the steady-50-mph gas mileage. Previous test findings will be retained on the chart, to give a ready reference of comparison.

# impossible victory

**"How I won the '34 French GP with an ailing Alfa against the formidable Mercedes, Auto Union, Bugatti, Maserati teams . . ."**

*by Louis Chiron*

*as told to Gordon Wilkins*

**WHENEVER THE GERMANS HAVE A NEW RACING CAR** which they hope is invincible, they tend to give it its first outing in the French Grand Prix. They did it with the 130-hp four-cylinder Mercedes in 1908 ("My Greatest Thrill," Sept. '58). They did it with the 4½-liter four-cylinder Mercedes a few months before the outbreak of World War I in 1914; they did it with the 3-liter desmodromic-valve fuel injection cars in 1934. And they did it with entire new teams of Mercedes and Auto Union cars built under the 750-kilogram weight formula in the 1934 race.

It could be that in reserving their latest and best for this race, the Germans pay a compliment to the Grand Prix of the Automobile Club de France as the premier and senior international classic. But seeing their race turned repeatedly into a demonstration of German superiority on their own home ground, there are Frenchmen who view it in another light. And none more so than Louis Chiron when the flag fell—or more correctly failed to fall—for the start of the 1934 race.

Already there had been an uneasy feeling that there was more than motor racing at stake. National prestige was involved. Only the year before, the Nazis had come to power in Germany and Hitler had become Chancellor in succession to Hindenburg. The swastika was in the ascendancy and these new squat, silver cars were the symbol of a resurgent power beyond the Rhine which France had good cause to view with concern.

Mercedes had Caracciola, von Brauchitsch and Fagioli to drive their sleek single-seaters with supercharged straight-eight engines. The Auto Unions, then known as P-Wagens from the name of their designer, Doctor Porsche, were sensational machines with the driver in front, and a supercharged V-16 engine behind him. Their drivers were Stuck, Momberger, and Prince zu Leiningen, but only the first two started as the third car was not ready. With their ultra-light construction and all-independent suspension the new German cars obviously marked a big step forward in racing. Car design and observers agreed that they immediately made all the rest look old-fashioned. They soon showed that they had performance to match their looks. The wail of their superchargers could be heard a couple of miles away as they put in practice laps on the Montlhéry circuit at around 90 mph.

*The Motor* reported, "Practice was a truly terrifying sight. It seemed impossible that ordinary men could hold cars for 500 km at such speeds over such a circuit." It was in fact a really tough course, scientifically designed to include every kind of corner, curve, hump and depression found on ordinary roads, and concluding with a fast sweep around the banking of the concrete speed oval. It was terribly bumpy, too, and it was obvious that the all-independent suspension of the new German cars was giving their drivers a much more comfortable ride than the harsh springs of the rival Alfa Romeos, Bugattis and Maseratis.

To resist the German challenge the Scuderia Ferrari had a team of 3.3-liter Alfa Romeos with twin driveshafts handled by Chiron, Varzi and Trossi. The Maseratis were driven by Zehender and Etancelin, and the 3.3-liter Bugattis were driven by Nuvolari, Benoist and Dreyfus. They were outclassed and the

*continued on page 62*

*"I barely made the tight S turn, swinging wildly left and right. Fagioli, right behind me, hadn't a chance. He swung wide, went onto the grass, and finally ended up among the bushes on the bank."*

**Illustrated by Carlo Demand**





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# THREE-WHEELING



Designer-builder Jerry Woodward (left) and MT Technical Editor Chuck Nerpel test three-wheeler on mountain roads of Utah.

Photo Story by Charles Nerpel, Technical Editor

**JERRY WOODWARD**, 27-year-old motor enthusiast and partner with his father in an auto glass business in Provo, Utah, has designed and built a three-wheeled automobile to prove to himself a theory he had been thinking about for some time. He had a 1950 Lincoln engine, bored to 341 cubic inches, with 1956 F-8 heads, Carter four-barrel carb, and sodium-cooled valves that he intended to install in a rear-engined, gas class dragster. The more he thought about it, the more he decided to build a rear-engined sports-type road machine with a special body.

Knowing little about the three-wheel Morgan or the ill-fated Davis car, his dragstrip experience led him to believe that one front wheel was ample for the control of a powerful rear-engined machine with high rear axle load. Also, the prospect of three points in constant contact regardless of the road contour intrigued him enough to explore this approach toward an improved ride and better handling than possible with a conventional four-wheeled vehicle.

By the time things got on paper, Jerry had conceived a three-wheeler, the single wheel the steerer in the front, with the engine in the rear driving through a 1950 Lincoln transmission into a swing axle, torsion bar suspension composed of 1947 Ford center section and driveshaft universal joints, and '57 Chrysler 300-C torsion bars.

The problem of creating a steerable front wheel without using a war surplus aircraft nose wheel was solved by a fork-type mount fabricated of steel; suspended with coil

springs, machined guides and Gabriel tubular shocks; and pivoting on a large ball bearing. The side thrust is supported by eccentric-adjusted ball bearings running in curved guides that match the steering arc. In his desire to secure a much shorter turning radius than necessary for the 133-inch wheelbase, he built such a turning angle into the front wheel that it was possible to get it into a position where hard braking with rather slow forward motion would turn the car over. He knows all about this because before installing front-wheel pivot stops that limit the turning circle to 45 feet, Jerry flipped the car over on himself. Rigid frame construction composed of 1947 Ford rails with 1¼-inch by ½-inch wall tubing space frame and roll bar saved the young builder from injury.

Test-driving the three-wheeled chassis over some of the winding canyon roads around Provo brought out some interesting features of such a suspension. The ratio between the 63-inch rear tread and the 133-inch wheelbase provides a rather long triangle and reduces the wobble so predominant in three-wheelers of shorter wheelbase. Jerry's "Vortex" (as he calls it) has most of the handling characteristics of a conventional four-wheeled vehicle with slight understeer about the same as domestic passenger cars. A 12-degree caster angle on the front wheel makes the car stable on fast straights without too much energy required for turning. The front wheel does "bank" slightly in the direction of a turn but the 8.00 by 15 Firestone super sport tire holds well, and

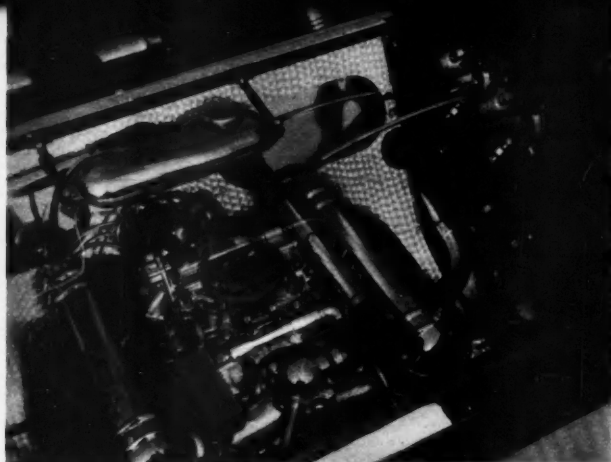
He had a theory that  
three were better than four  
— so he built a car to prove it.

there is no difficulty in changing steering direction. Diving into a corner and just shaving the road's edge with the inside front wheel is not possible with this three-wheeler as the inside rear wheel will slip off the road if such technique is followed.

Finding a deserted stretch of level road in this part of Utah was just about as difficult as handling the reverse-pattern, left-handed stick shift for acceleration tests, but we were able to record a time of 7.5 seconds for zero to 60 on slight uphill runs. The bite of the swing-axle-suspended 8.00 by 15 rear tires was so good that acceleration times were longer than would be possible with wheels that slipped a little. Popping the clutch on such terrific traction certainly cuts engine rpm's no matter how high the revs. Speaking of clutches, the "Vortex" has a hydraulically actuated clutch with vacuum power assist that makes harsh clutching next to impossible. The dampening effect of the big Bendix vacuum units (used also on the brakes) allows smooth engagement even when the foot is snapped off the pedal.

While most of the main components are Ford or Lincoln, a few parts are from other cars. Cooling is by thermostatically-controlled electric blowers pushing under-car air through a

*continued on page 52*

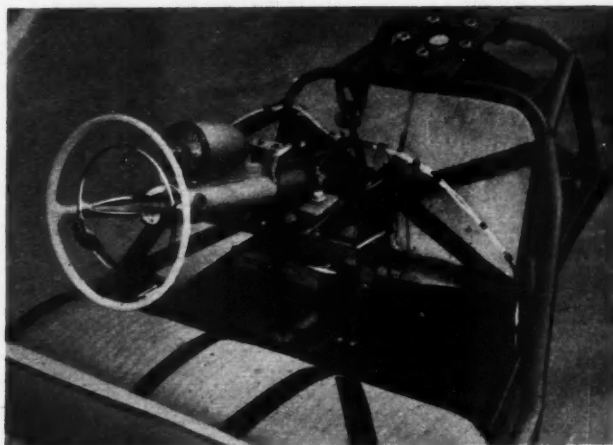


*Big 1950 Lincoln engine fits snugly behind seat. Engine-turned panel is part of airscoop for cooling radiator.*



*Stock Ford, Lincoln and Chrysler parts were used to fabricate the swing-axle, torsion-bar rear suspension.*

*Radiator made from Nash core has separate header tank and electric blowers with engine thermostat control.*



*Large diameter tubing is used to support single front wheel mounting, widen upper frame and body supports.*



# TESTING the BIALBERO

**"...the most beautiful toy ever built for grown-ups."**

**N**OW I KNOW WHAT IT FEELS LIKE to travel in a moon rocket: the noise, the surge of power, the acceleration, the confined space, the sensation of looking at the world from an unusual angle... and the difficulty of stopping. I got my introduction to the sensation of space travel the easy way, in what has been described as "The most beautiful toy ever built for grown-ups," the *Bialbero*. To give it its full description, this "toy" is the Abarth-Fiat 750 with Zagato body and twin overhead camshaft engine.

This tiny projectile is only hood-high to an Alfa Giulietta sedan, which itself is no windjammer. After the initial gymnastics required to force an entry, the comfort is truly surprising. Adroitly shaped seats for two give support in all the right places. There was a clear two inches between my head and the roof. There is legroom for six-footers, but not an inch is wasted.

Screaming down the Italian Autostrada enclosed in this tiny capsule was a unique motoring experience. Drivers of bigger cars rarely saw it coming up behind until I flashed the lights. It could be steered to an inch through gaps where nothing else could survive. If anyone tried to stay with it, he usually got left behind in a mile or two. It weighs

a mere 1200 pounds ready to roll. Tucked away in the smoothly rounded tail is a little jewel of an engine that runs sweetly up to 8000 rpm and develops 62 bhp. The combination is irresistible; I tried two of them. One was a flaming red with a 4.55 axle, the other a shiny silver with a 4.33 final drive.

It was a holiday weekend and the Autostrada was choked with holiday traffic. Conditions could not have been worse for testing a fast car and with anything else I should have given up. This fantastic little machine rocketed through the gaps in the traffic, almost unchecked. After checking the speedometers, both of which were highly optimistic, some quick acceleration runs were made. The results are not offered as definitive performance figures because there was no chance to take a sufficient number of runs, but they give fair indication of the amazing potential of this new Gran Turismo miniature.

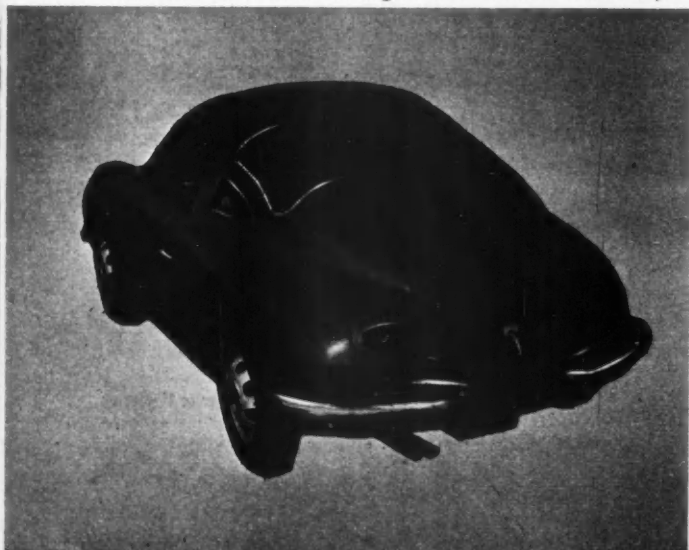
	4.55 to 1	4.33 to 1
0 - 30 mph	3.2 sec.	3.9 sec.
0 - 50 mph	7.2 sec.	8.2 sec.
0 - 60 mph	10.3 sec.	11.5 sec.
0 - 80 mph	19 sec.	20 sec.

continued on page 40

by Gordon Wilkins

Going away is view most motorists will get of tiny rear-engined coupe which accelerates to 60 mph in just over 10 seconds but is docile in traffic. Rear window is almost flat.

Author tries Zagato-bodied, Abarth-modified Bialbero for size, finds it requires agility to enter but retains ample head- and legroom. Car stands hood-high to Alfa Giulietta sedan.





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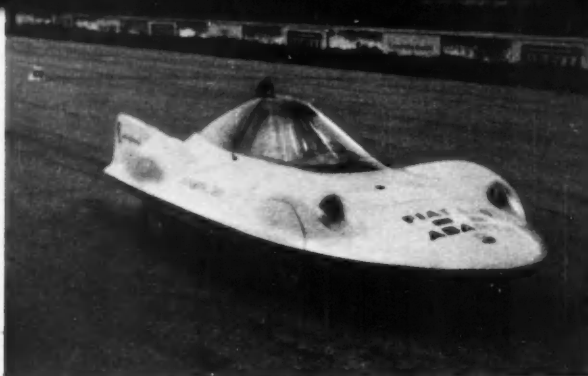
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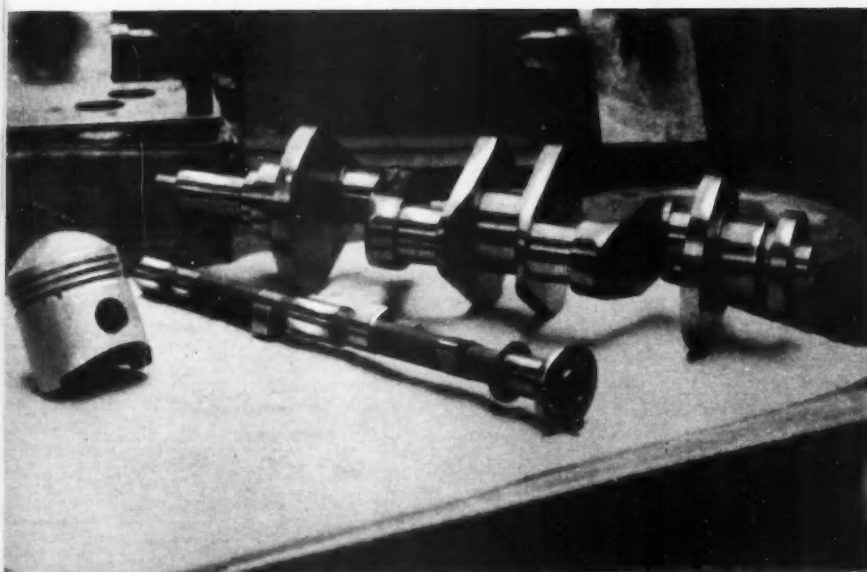
*Carlo Abarth, left, who converted Fiat 600 engine to twin-overhead-cam 750cc unit, explains horsepower testing to author. Engine develops 62 bhp, turns a smooth 8000 rpm without bending valves.*

# TESTING THE BIALBERO

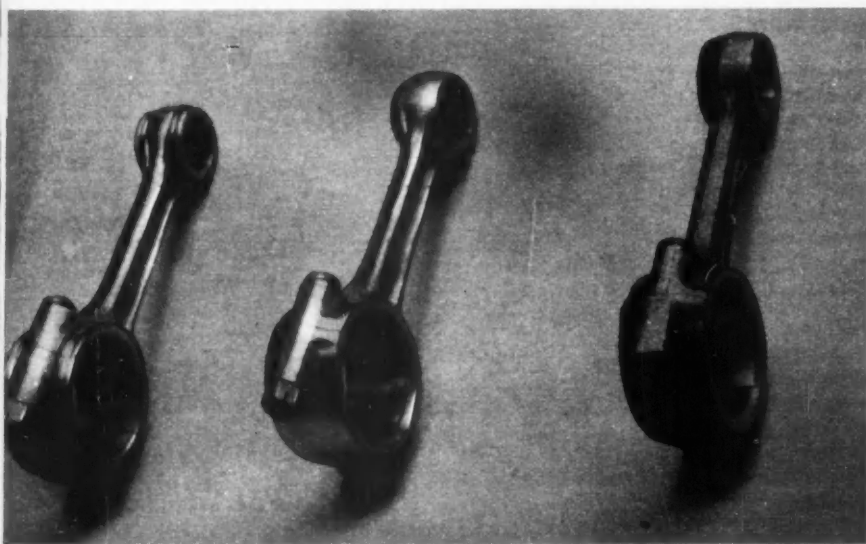
continued



*Abarth single-seat streamliner serves as test vehicle setting records on Monza with each new-type engine developed by firm.*



*Piston, camshaft and crank for Abarth-Fiat 750 are carefully turned out to withstand high revs. New pistons will be die-cast; this one has 9.5 to 1 compression.*



*Connecting rod refinements, right to left, from standard Fiat 600 to polished and lightened for Abarth production engines to grooved for twin-cam race engine.*

Below 4000 rpm the engine ran smoothly enough, but it is not really getting to work. Above that figure the power comes in with such a rush that it needs a keen eye on the rev counter to prevent it from soaring over 8000. Normal gear-shifts are made at 7000. If you should miss a gear there is no great danger until you hit 8400. Then a valve is likely to caress a piston. The engine is incredibly smooth and sweet right through the range. Though no-one could pretend it is inaudible, the snarl from the twin tail-pipes, as the car rushes up and down through the gears, is music for the motor-ing-minded.

Under the prevailing conditions it was not possible to get a series of uninterrupted runs up to a genuine 100 mph, but it seems safe to say that 0-100 times should be around 40 seconds. Thanks to this staggering acceleration I was able to snatch a few readings over measured distances which showed a mean maximum speed of exactly 110 mph. Given ideal conditions Carlo Abarth says it should do a genuine 112 mph.

Designed primarily as a competition car it is not particularly cheap (just under \$3300 at the works), but it is more than just a temperamental racing machine. It is docile enough to drive in town traffic. On winding roads its high performance and small size are a combination which can defeat most owners of high powered sporting machinery. Steering is sweet, quick and precise. There is a certain amount of oversteer. With the torque available at the rear wheels, taking sharp corners is simply a matter of flicking the wheel and bringing the tail around with the throttle.

The brakes are developed from those of the Fiat 600 which were designed for half the Abarth's speed. Even with competition linings they could not be described as powerful. Putting them on at anything between 80 and 100 mph produces a marked vibration from the front end but no other perceptible result. It takes some quick work with the gear lever if one needs to slow down quickly. The present brakes would probably serve for hillclimbs where this Abarth will be very hard to beat. Something more powerful is needed for circuit racing and fast road driving. It would be relatively easy to fit more effective brakes, possibly discs, yet it remains to be seen whether the suspension would have to be stiffened as a result.

Carlo Abarth has beaten tougher problems than this one on brakes and he has the matter in hand. It is expected that the 750 Bialbero will be homologated as a Gran Turismo car in time for Sebring, where three of them are being entered, for the 12-hour endurance race, one to be shared by Cattini and Poltronieri

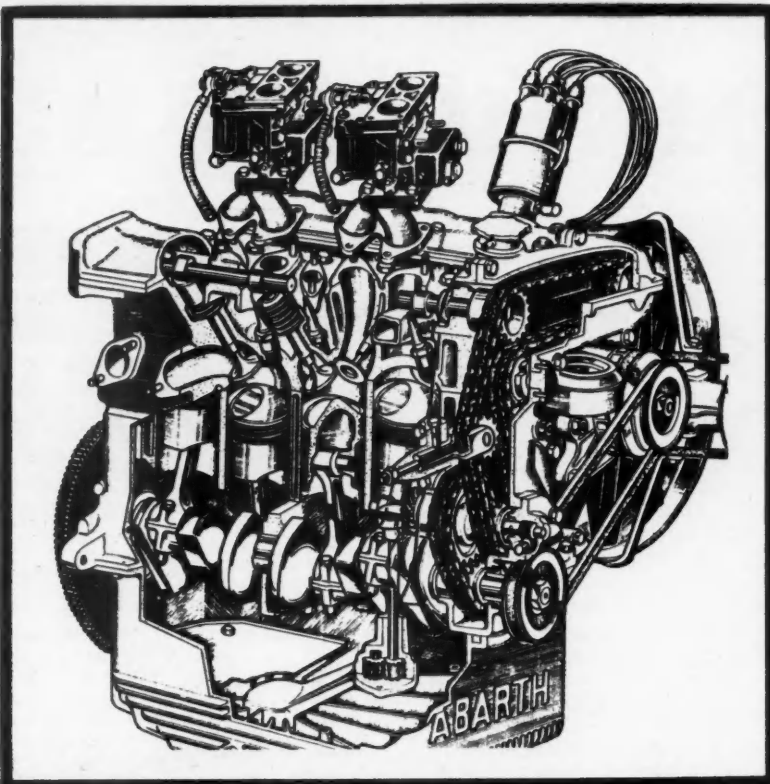
and another car by Sala and Baghetti.

The engine is directly developed from the standard Fiat 600 unit on which Abarth worked wonders with their push-rods and long stroke crankshaft before turning to overhead camshafts to give him an extra 1000 revs. Much of the design and development was done by a bearded young engineer, Luigi Guerrieri, who until recently was with Bugatti. The standard Fiat 600 block is used with modified oil ways to provide a flow to the valve gear. The head is a Silumin (aluminum-silicon) casting with inlet valves 1.34-inch diameter and exhaust valves of 1.18-inch. Valves are at 80-degrees included angle and are operated through piston-type tappets. The camshafts are enclosed by magnesium alloy covers. A counterbalanced crankshaft is made of the same steel as used by Alfa Romeo and runs in Vandervell copper-lead-indium bearings, but is not nitrided. The camshaft drive is in two stages. The first is the normal Fiat 2 to 1 reduction from the crankshaft to a stub shaft placed where the normal camshaft would be, and from there a second chain takes the drive to the two overhead camshafts.

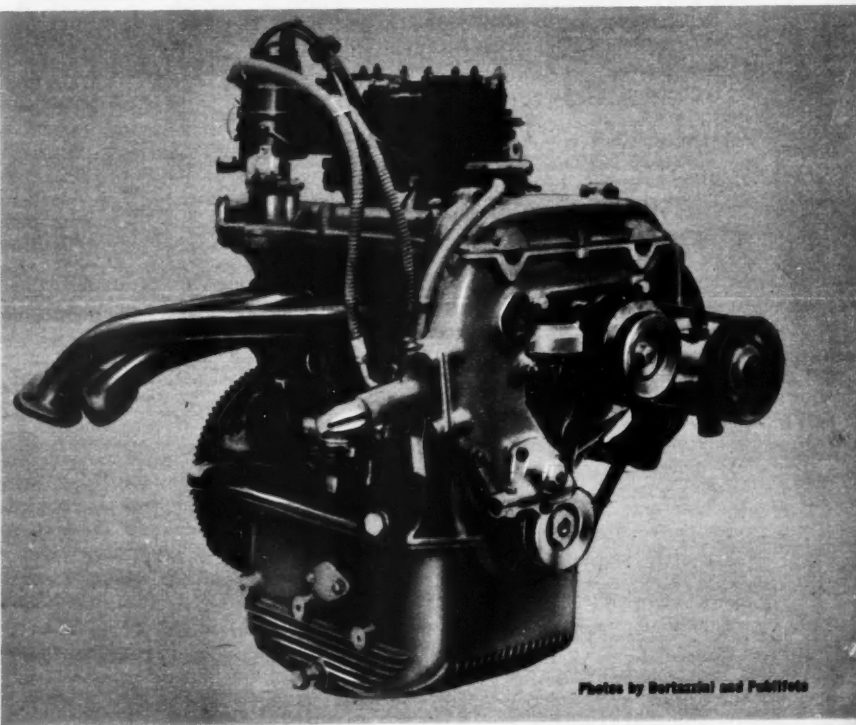
Standard Fiat 600 connecting rods are used but they are highly polished and lightened by 0.9 - 1.0 ounce. For racing engines there is an even lighter rod where a total of 2.3 ounces has been saved by turning curves around the eyes at each end. The present pistons give a compression ratio of 9.5 to 1 and eventually more weight will be saved by using special die-cast pistons. It was quite a problem to find space for the two twin-choke downdraft Weber carburetors on the tiny cylinder head. They are mounted at an angle to the center line on short curved stub pipes. The angle between carburetor and engine center line is well within the limit recommended by Weber to prevent fuel surge away from the jets during acceleration.

Past experience shows that Abarth horses do not appear for just a few seconds as a flash reading on the dynamometer; they are horses with sturdy legs that stay on the job through continuous days and nights of punishment on the test track, for it has become the rule for every new-type Abarth engine to be put into one of his streamlined single seaters and sent for a long distance record attempt at Monza. The Abarth Fiat 750 recently set up a new series of class records extending from 100 miles at 127.332 mph through one hour at 127.852 mph to 500 km at 128.490.

Indications are that the 750cc twin-engine overhead cam engine should be giving 70 bhp before long. There is a project to install it ahead of the rear axle in a miniature roadster with tubular chassis. This should be a stupefying little machine—dynamite in a small size stick. *JWT*



Engine carries two Weber dual-throat carburetors mounted at angle because of limited space. Two overhead camshafts drive valves set at 80-degree included angle.



Photos by Bertazzini and Publifoto

Twin-overhead-cam engine combines reliability with high performance. Currently 62 horses, power may be boosted to 70 hp which should increase already amazing speeds. Engine pulled streamliner 128 mph, will get two-passenger coupe to 112.



# MEMO TO DETROIT:

## "LET GOOD TASTE BE THE STYLISTS' GUIDE..."

**S**HOULD FORM FOLLOW FUNCTION? Frankly, we don't believe that it *has* to in all design, but when it comes to cars, it's a different story. After all, what are cars designed for, except to perform a *function* — take you from Point A to Point B in the most comfortable, most effective, most economical, or fastest way possible?

Why then, can't cars look like cars? Do they have to be designed to resemble the mood of the moment, which happens to be rockets blasting off into outer space? Why do we have to have cars that look like airplanes? Do designers of those products make them look like cars?

Good design is not a hard thing to recognize. Nor does MOTOR TREND subscribe to the belief put forth by many that the public doesn't know any better — that they would just as soon have a bad-looking car (if it's a popular design) as a good-looking one. We believe that much of the reason for the poor sales of last year's cars can be laid at the doorstep of the stylists (or those behind them dictating what *must* be designed). And neither do we believe that any sort of poll or research is going to produce the magic formula for "The car that will outsell all others because it's designed to appeal to the masses."

The motoring public (and that's you and us) has much better taste than it is given credit for. We say this despite the fact that last year's chromiest car (the '58 Oldsmobile) actually sold better than many of its "cleaner" competitors. It's our belief that it sold *in spite* of all its chrome, and not *because* of it. Its sister car from Flint was just as much of an eyesore, yet it did not sell.

To our way of thinking, there have been too few times in recent years when car manufacturers have had the courage to produce cars that were pleasing to look at. The '53 Studebaker was one. The two-passenger Thunderbird and the

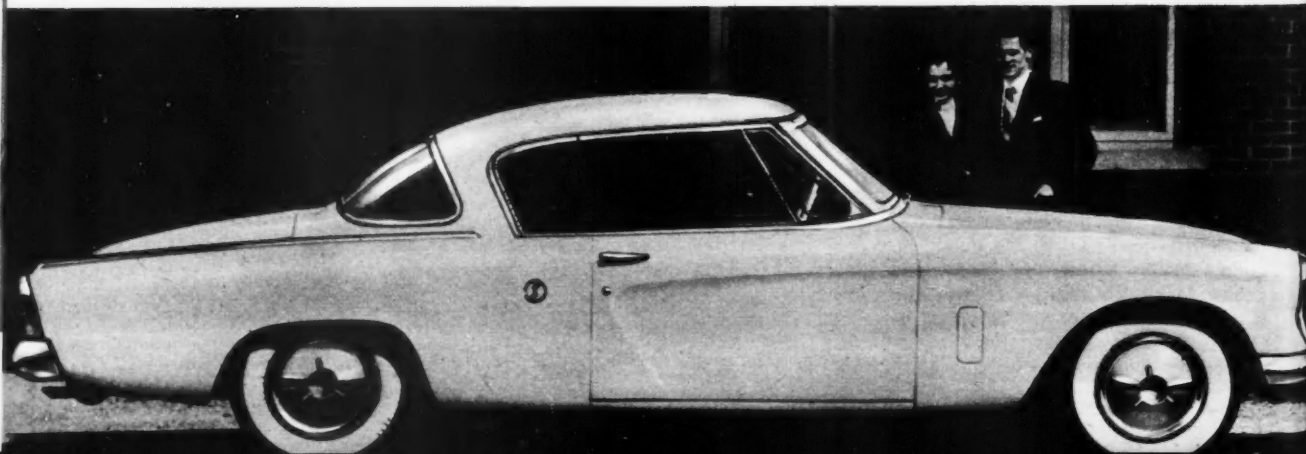
Chevrolet Nomad wagon were two others. The Chrysler 300 series (and a few of the other Chrysler products) were clean, as was the '57 Ford. But, we'd be hard pressed to come up with others that are outstandingly clean in design.

If it hadn't been for labor and parts difficulties at the time of announcement of the "lithe, Loewy" Studebaker, it might have sold twice as well as it did. The T-Bird certainly surpassed all expectations. With the advent of Exner styling, Chrysler zoomed from a paltry 13 per cent of the total market to nearly 20 per cent. And 1957 was the first year for as long as Ford people care to remember that Ford got back into first place in total sales. So, there must be *some* connection between good styling and good sales.

Probably one of the basic reasons why Detroit cars are not the cleanest of designs is that they are mass-produced — and we don't mean in terms of *building* them, but *designing* them. Once a good design is arrived at, it's no problem to produce 10 more, or a million more. But, when too many people try to express their feelings as to how a certain car should look, and the stylists have to interpret this, and compromise with every touch of their pencil on paper and even apply the design to three or four other cars in the corporation, then the design can be just a stew — when it should be a steak.

When the manufacturers let their designers style the cars with an unmistakable expression (just as you can almost invariably tell a Pinin Farina design from any other), and let good taste be their guide, then we think they will be on the right track once more. This year has seen more improvement in car styling than any year since 1955. To MOTOR TREND's way of thinking, this movement is spearheaded by cars like the Pontiac and Buick. They are cleaner, more functional in design, and could well go down in history as "The car that led the revolt back to simplicity."

1953 STUDEBAKER COUPE





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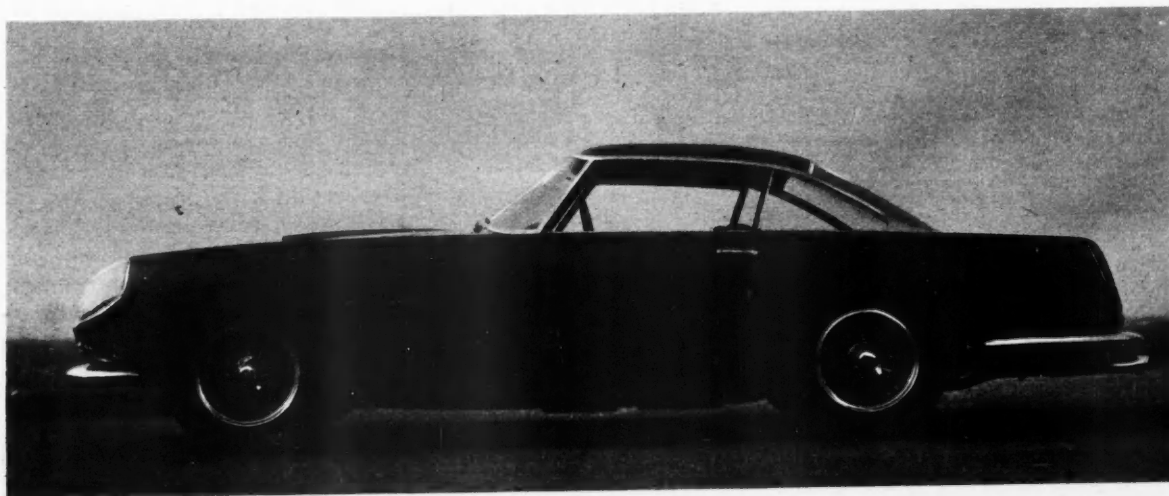
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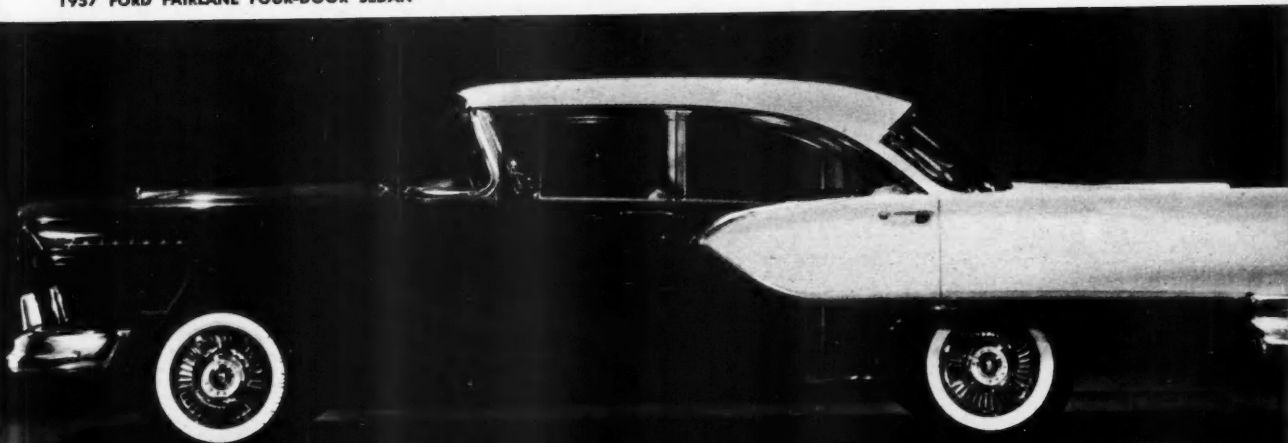


1955 CHEVROLET NOMAD TWO-DOOR STATION WAGON



FERRARI 410 SUPERAMERICA (BODY BY PININ FARINA)

1957 FORD FAIRLANE FOUR-DOOR SEDAN



# MOTOR TREND

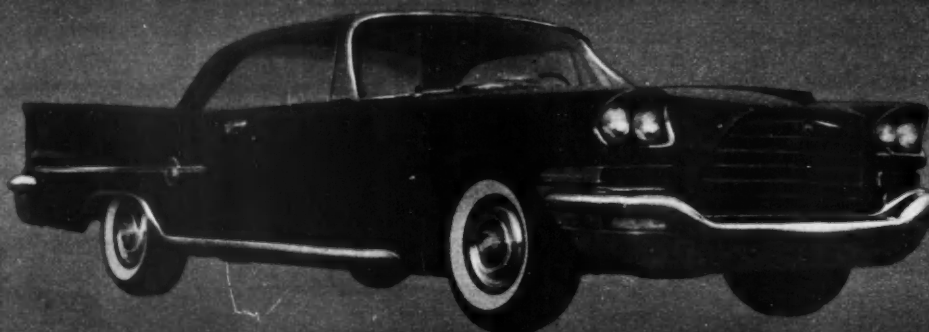
## Looks at Detroit Styling...



Best-looking car, overall —

### BUICK INVICTA FOUR-DOOR HARDTOP

Best completely integrated new design, with all elements styled for one basic concept . . . Canted headlights and hood lines give it a "poised for flight" look . . . Delta-wing fenders individualize rear end, complement simple-circle functional tail lights . . . Textural quality of grille does not overemphasize either vertical or horizontal lines — but blends . . . Flat roofline, over "control tower" rear window, introduces another horizontal element to the look of fleetness in that plane . . . Side trim accentuates the design's best features . . . Represents greatest improvement over previous year's design — cleaner lines, less chrome . . .



### Best-looking hardtop — CHRYSLER 300-E

Has look of rugged quality . . . Clean lines, solid appearance . . . Does not copy conventional wide-mouth grille design. Only car using functional air intake — covers radiator and that's all . . . Not cluttered with needless chrome . . .

# ...and selects "The Best-Looking Cars of '59"

Best-looking unusual body style

## CHEVROLET EL CAMINO

Eliminates the objection to pickups, which normally have that high, boxy look... Combination of flat hood, horizontal line of thin roof, thin deckline and clean side spear gives it a look of motion at rest... Adds a new form to function...



## Best-looking wagon — BUICK INVICTA

Blends distinctive styling with station wagon serviceability... Provides multipassenger capacity and cargo space without bulky look... Styling retains jaunty look of passenger car in series... Large glass area adds note of lightness...



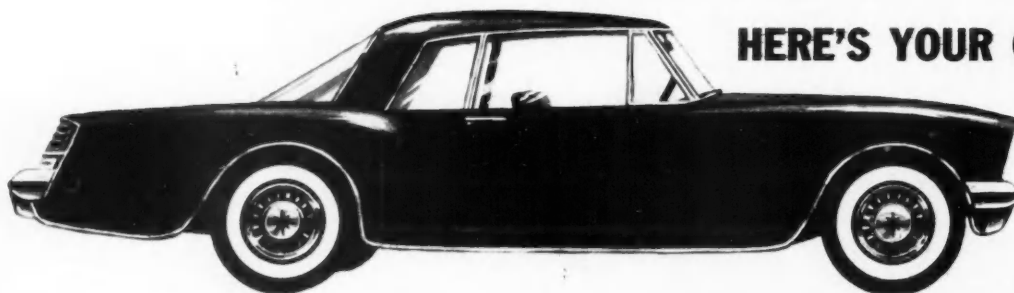
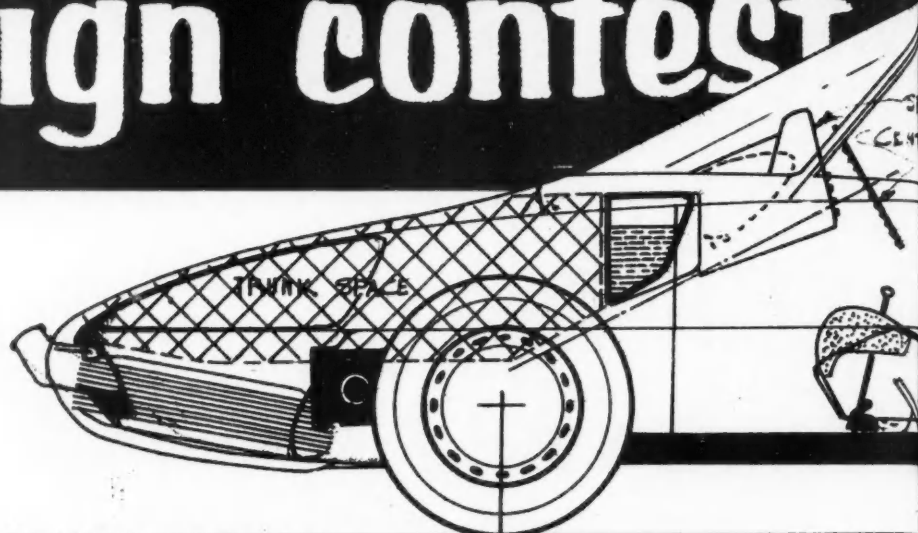
Photos by Bob D'Olive and Colin Creitz



## Best-looking sedan — PONTIAC CATALINA TWO-DOOR

Low lines and broad tread combine to give look of crouched agility... Smooth, thin roofline... Novel grille treatment accentuates width, yet at same time is in lateral scale... Minimum of chrome used to provide tasteful accents...

# design contest



## HERE'S YOUR CHANCE

**T**HE SELECTION of drawings and photographs on these pages is just a sampling of the material received completely unsolicited from our readers. Each (except the "flaming" convertible — a model by Revell) represents the desire of an individual to express himself in terms of automotive styling or designs. The black-and-white sketch represents Justin Pearson's idea of the simplified type of car Detroit should be manufacturing. The rear-engine sedan (designed by N. Hamy) contains some interesting design aspects — particularly the seats and top. The small photograph shown below is a '53 Lincoln Capri customized by Larry Bruensback.

As it so happens, the drawings and photographs also represent the three basic categories in MT's newest design contest — Project IDEAS (which stands for Individual Dreamers Encourage Advance Styling):

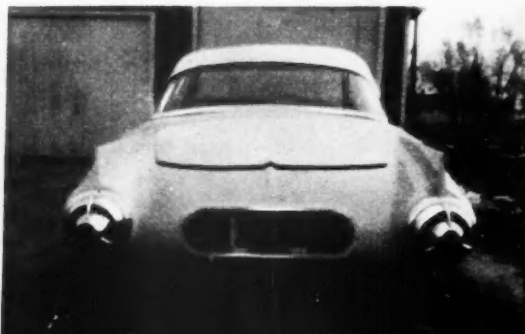
1. Your own custom model car built from any Revell (or other make) kit. (The one shown here is one of three customizing kits presently being produced by

Revell. Each has up to 94 accessories in the kit, allowing you to individualize your own model.)

2. Your own original automotive design sketch or detail drawing. This can be for a complete car or for one or more components.
3. Photographs of an actual full-sized car that you have designed or customized. Again, this could be an entire car, or part of one.

Entries will be accepted in any one of the above categories and will be judged in one of the following three classes: 1) Senior Designer (open to all entrants), 2) Junior Designer (open to any entrant aged 19 or under), and 3) Apprentice Designer (open to any entrant aged 13 or under).

The best designs and ideas received will be published monthly in *MOTOR TREND*. Prizes will also be awarded monthly in each of the above classes, regardless of the category entered. These will consist of Savings Bonds in the amounts of \$100, \$50, and \$25. The best designs and ideas

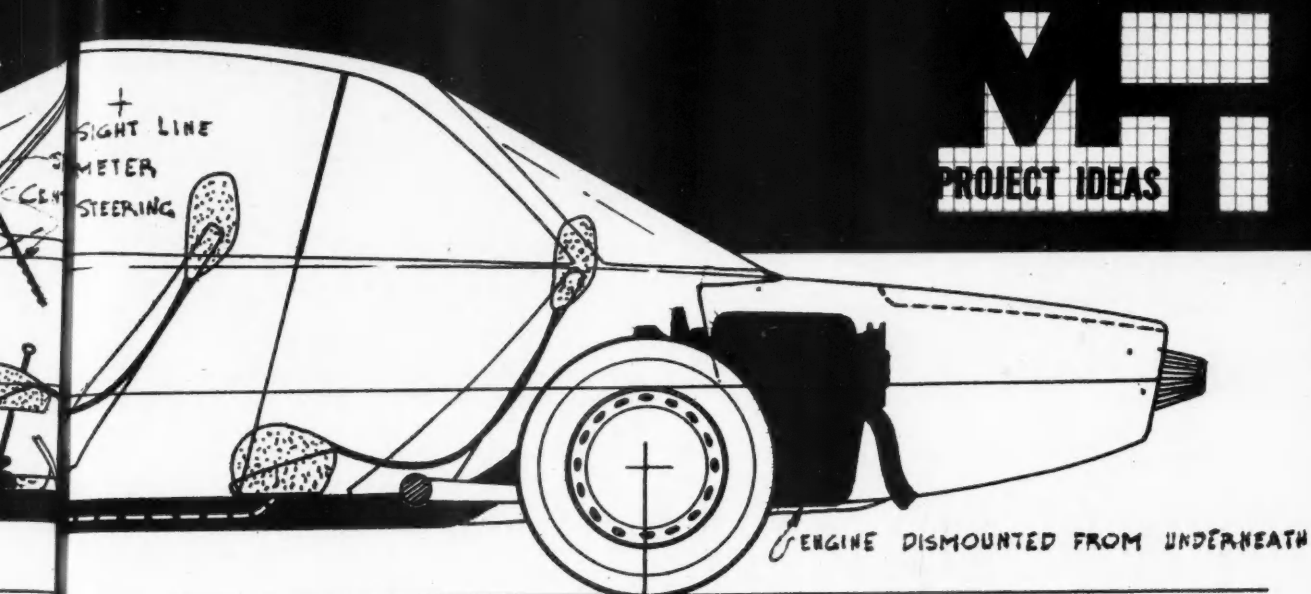


For your Entry Blank,  
Official Rules, or more information,  
send a card with your name and address to:

### PROJECT IDEAS

P.O. Box 272, Venice, California

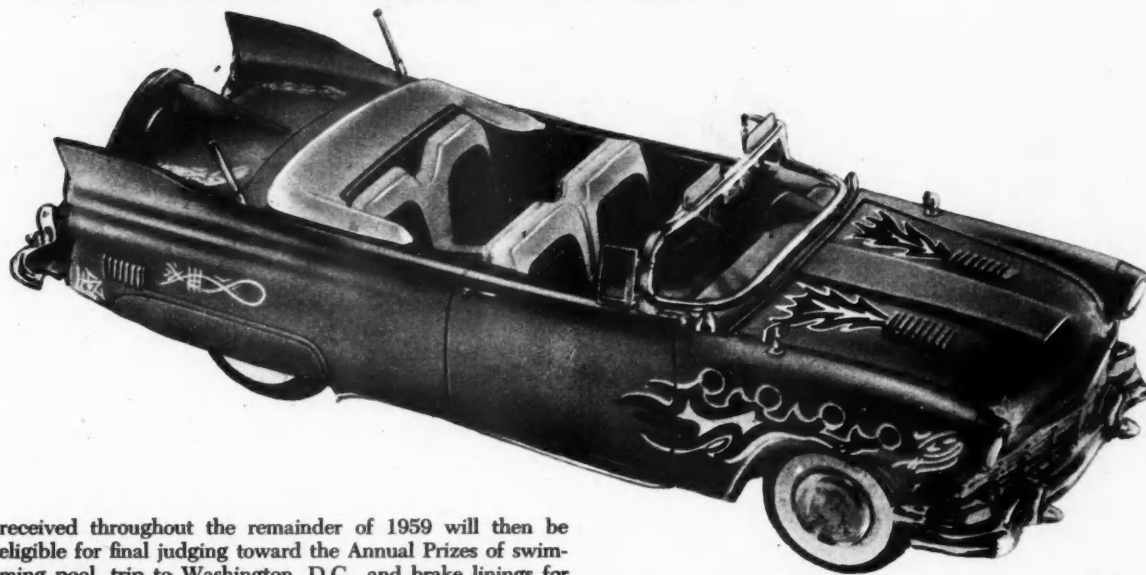




# MT

## PROJECT IDEAS

## TO TELL DETROIT HOW TO DO IT!



received throughout the remainder of 1959 will then be eligible for final judging toward the Annual Prizes of swimming pool, trip to Washington, D.C., and brake linings for your car for the rest of your life.

Here's your chance to let Detroit know how you think they should style or design their cars, and also the opportunity to win a prize for your efforts. Get your entry in now!

### THE PRIZES (Jointly awarded by Revell, Inc. and Motor Trend)

#### MONTHLY

**Senior Designer Class**  
\$100 Savings Bond

**Junior Designer Class**  
\$ 50 Savings Bond

**Apprentice Designer Class**  
\$ 25 Savings Bond

#### AT END OF YEAR

**GRAND PRIZE** A 16 x 32-foot swimming pool valued at \$3500.  
Includes installation.

**2ND PLACE** An all-expense-paid trip for two  
to Washington, D. C.

**3RD PLACE** Brake linings for your car for the  
rest of your life.

driving  
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WALT  
WORON



Spacious, padded and covered trunk of the Lancia Flaminia includes a tool kit for necessary, on-the-spot servicing.

# THE LANCIA FLAMINIA

**I**F EVER THERE WAS A CAR that combines the features of a sports-car and a family car — and does great justice to each — it's the Lancia Flaminia. Very often I've heard a prospective new car buyer say, "I want a sportscar, but . . . well, you know, the children. And we can't afford two cars."

Of course, it all depends on how much money you have to spend on a car. When you're in the Flaminia's price class (it was *reduced* late last year from \$7460 to \$5998), you actually *could* afford to have a sportscar — and a family car. But, neither one, nor both of them put together, could come anywhere near the quality of the Flaminia. Here is truly a luxury car, with more refinements than any two U. S. cars combined.

Sample these: upholstery materials from the classics of yesteryear fitted over foam rubber padding; four electric windshield wipers on the rear window (two outside, two inside); chrome fittings that use *real* chrome; pushbutton controls on the dash for the two rear vent windows (the only ones necessary to get good ventilation — along with the fresh air intakes); an absolute hushed tone with all the windows closed; with the \$300 FM radio turned on, the feeling that you're sitting in your easy chair at home, enjoying hi-fi; a trunk that is completely padded with a rubberized panel over foam rubber on the floor; and, an engine compartment that's as immaculate as the interior of most other cars.

The Flaminia combines a smooth, comfortable ride with amazing cornering ability — a combination brought about by an unusual Lancia-patented suspension system. The rear suspension couples differential, transmission, and inboard-mounted brakes in one unit; there are swing axles to both wheels, independently sprung by semi-elliptic springs. If you want to have a preview of what Detroit will be doing in a matter of a few years, or even less, study this system. The pillar-type front suspension previously used has been replaced by conventional wishbones.

And also while Detroit still just continues to talk about it, Lancia & Co., Fabbrica Automobili di Torino, Italy has quietly been producing a V6 engine. The two banks of three cylinders are set at an included angle of 60 degrees and the block is extremely deep. Unlike the modern trend to over-square engines, the Lancia Flaminia has a stroke (3.42-inch) longer than the bore (3.12-inch). Cylinder capacity is 2451cc

(149.5 cubic inches), and with a compression ratio of 8.4 the engine delivers 118 hp at 5300 rpm.

When you pull the hood release latch under the dash and step out to take a look at the engine you'd probably be overwhelmed at the immaculate compartment. I know if I had such a car, I wouldn't say anything — but would wait for that astounded look on the other person's face. I'd watch his look of amazement as he took in the crackled-finish valve covers, the accessibility of the carburetor, fuel pump, distributor, plugs, and oil filter. I'd watch him nod approval at the battery being located away from engine heat, forward of the radiator (with a thermostatically-controlled shutter, incidentally). His disbelief that the fenderwells are padded, that the fuse box is out in plain sight and plainly marked, and that the engine sump is finned. I'd continue to watch his astonishment at the fact that you can drain the radiator from topside and that you can set the degree of stiffness (or softness) of the shock absorbers. The longer you look at it, the more interesting things you find; it's a real "goodie" engine.

Your position behind the wheel can be made very comfortable. You sit fairly high, have firm support for back and thighs, and whether short or tall you can see out over the wheel and hood. (The seatback reclines, too.) The pedals are small (those narrow Italian feet again!) but have enough room around them. The shift lever for the four-speed gearbox is never too far a reach in any of the gears. The instrument panel is well laid out, with two large dials that are easily readable because they're white on black and are in the natural line of sight. The left dial has the speedometer and other gauges; the right dial is the 5500-rpm tach.

Riding in the rear seat you feel like you're being chauffeured somewhere. You sink into the comfortable seats and don't get thrown around, even on corners taken quite fast. With the center armrest folded up three could squeeze in, but it's better for only two. With the front seat all the way back, there's just enough legroom, plenty of footroom, and always good headroom.

If you want comfort, distinction, appreciate unusual machinery, and have the money to buy a Cadillac Eldorado, take a long, hard look at the Lancia Flaminia. And even if you don't have the money, take a look at it. I'm sure you'll be as impressed as I am.

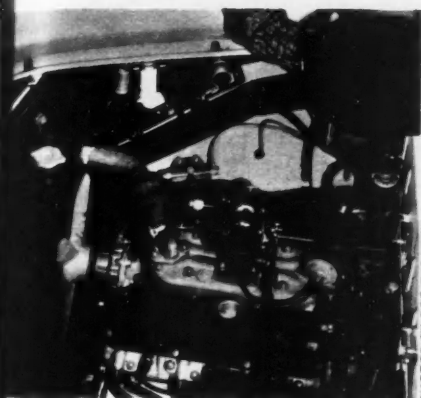
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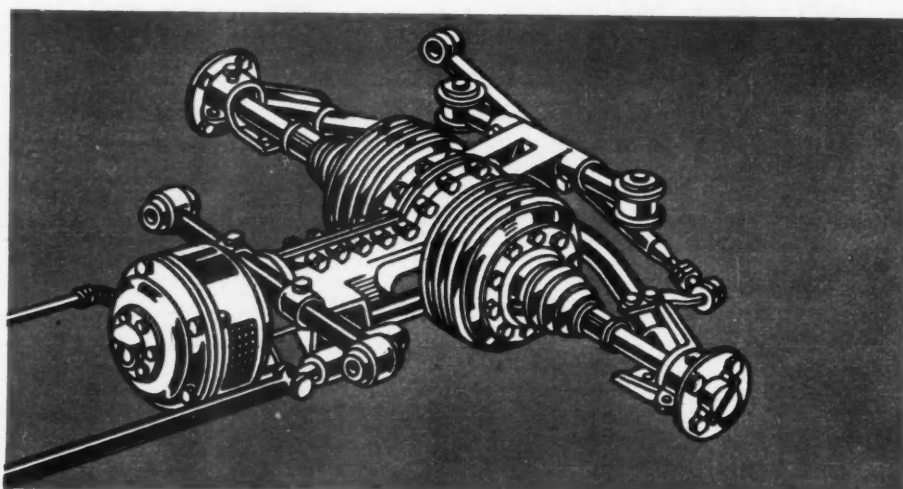


PHOTOS BY BOB D'OLIVO



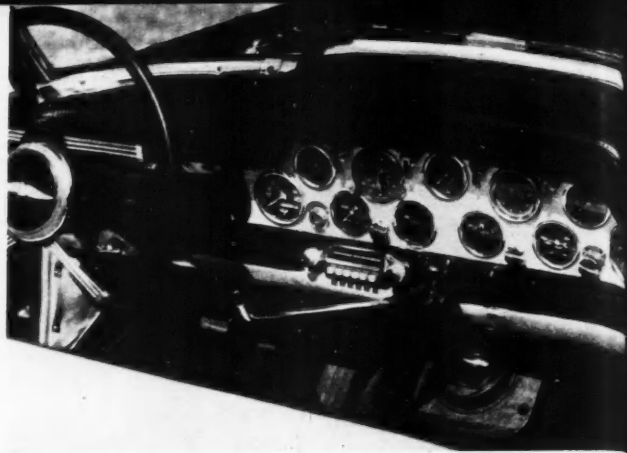
*Design and workmanship evident in V6 engine and compartment are real delight.*

*Interior of the Lancia shouts quality from the finish of knobs and handles to the soft, plush seats. Entry through wide-opening doors is easy both front and rear.*



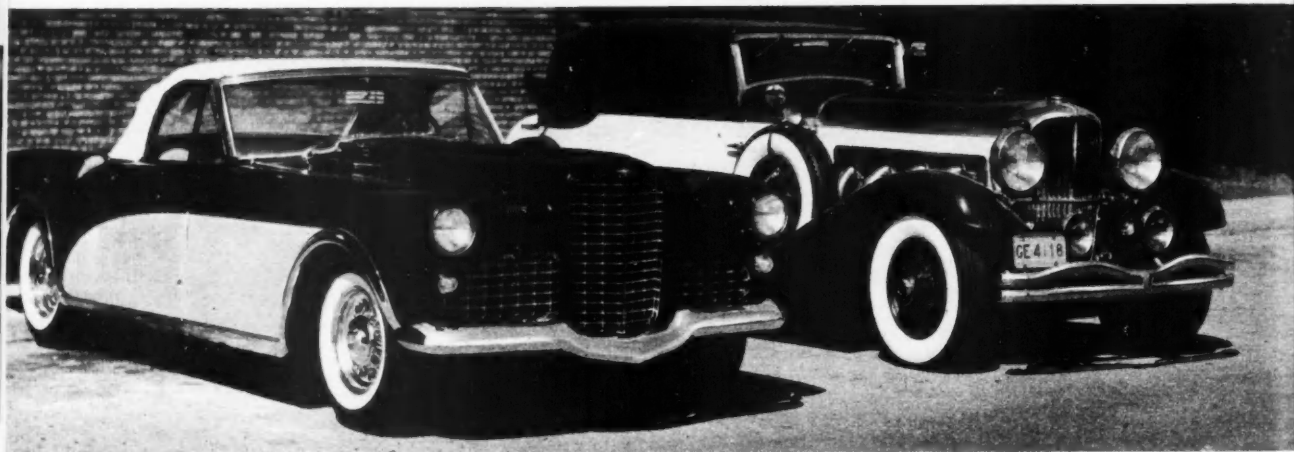
*Rear suspension combines transmission, differential, inboard - mounted brakes, swing axles. Two semi-elliptic springs (not shown) complete picture.*



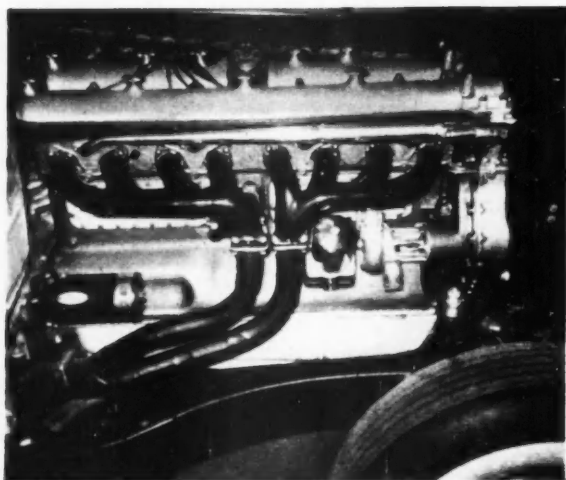


*Hand-rubbed maroon body finish adds to note of richness. Instrument panel (above right) was engineered from the ground up, contains many original Duesenberg instruments, even includes built-in accelerometer.*

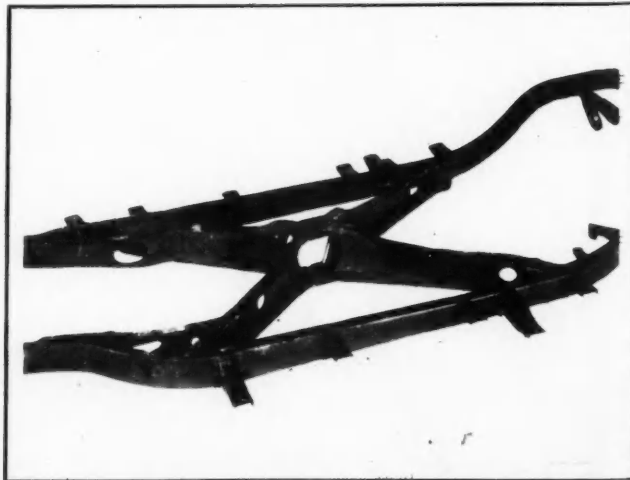
## A Duesenberg



*Duesenberg for '59 stands beside '30 Model J coupe (with Judkins body). New height is 55 inches, compared to original 70.*



*Double-overhead-cam straight eight was rebored to 435 cubic inches, develops 400 hp. Free-flow exhaust system was stock.*

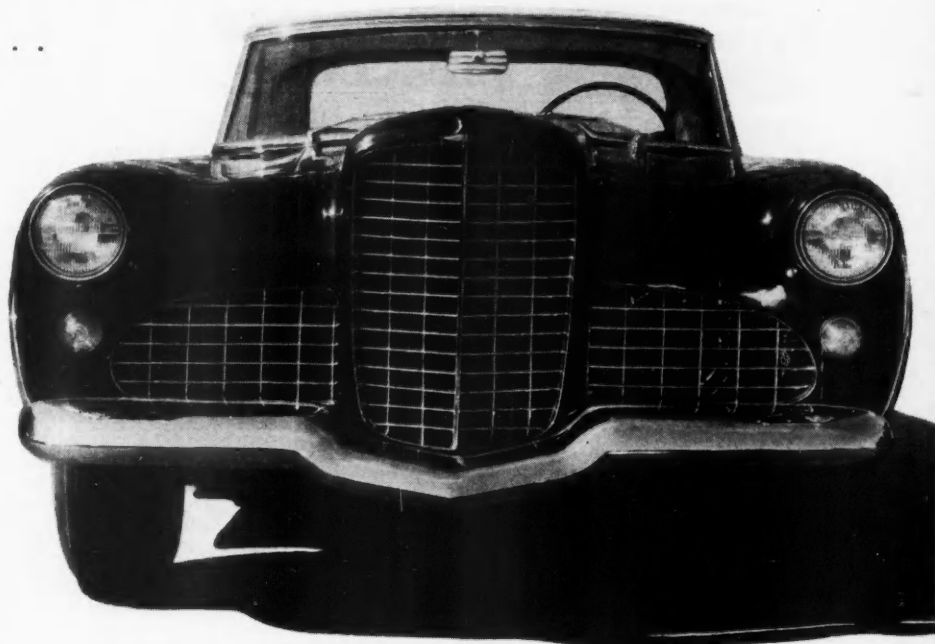


*'50 Packard frame was beefed up with boxed side members, "K" brace at front. Rear end has special leaf springs, shocks.*



What a touch  
of modernizing magic  
will do for  
a '30 Duesy coupe . . .

for '59?



by Dean Parker

**M**AYBE DUESENBERG ENTHUSIAST Mike Kollins was born 30 years too late. He vowed to own a "Duesy" the first time he saw one at the age of 12. When he was old enough to buy a car in the 1930s—the magnificent Model J's were then in production—he couldn't afford one. By the time he could afford one, in 1951, the company was long gone. Besides, the surviving Duesenbergs were obsolete from the engineering standpoint.

There was only one thing to do: Engineer and build a *modern* Duesenberg. Kollins' job in the Engineering Dept. at Packard put him in a beautiful position to do just this. He was in close contact with auto engineers, stylists, sheet-metal men, parts suppliers, toolmakers—a million dollars' worth of Detroit talent was at his fingertips.

The project started with the purchase of a 1930 Duesenberg J coupe with Judkins body. Strangely enough, the only parts of this car that Kollins considered worthy of his "modern" Duesenberg were the engine-clutch-transmission unit and the big radiator shell. He had always been fascinated by the brute power of those 420 cubic inches, the double overhead camshafts, hemispherical combustion chambers, and the four valves per cylinder. His intention was to build a modern car around this engine.

Anybody who has seen a Duesenberg J engine will appreciate the problem. It's *big*. Kollins achieved a reasonable hood height of 42 inches (with eight-inch ground clearance) by relocating the distributor and generator drives . . . and he finally settled for a hood length of 75 inches! Additional engine modernization

included 7.5 to 1 pistons, oversize valves, improved bearings, and four Carter side-draft carburetors on a special manifold. Output is estimated at 400 horsepower at 4200 rpm (which, incidentally, gives pretty decent acceleration with the curb weight of only 4000 pounds).

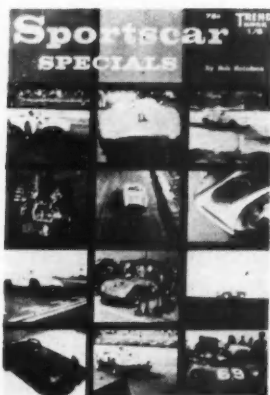
The chassis is basically 1950 Packard, but with a considerable amount of re-engineering and modification. The frame was beefed up by engineers at the A.O. Smith Co.; rear suspension was fitted with special low-rate leaf springs, shock mountings, and an anti-sway bar was worked in. Five sets of 3.23 to 1 gears were cut for the rear axle. The chrome wire wheels had been built by Motor Wheel for an early Packard Caribbean show car—at a cost of \$1500 for the set. They were some of the first 15-inch wire wheels manufactured in this country. The Bendix brakes, with 220 square inches of lining area, have adjustable vacuum assist.

The body, completely hand-formed of steel and aluminum sheet by body men in the Detroit area, required four years to complete. Almost everything was built "from the ground up"—seat cushions, upholstery, top, instrument panel, underbody bracing, floor pan, etc. The basic idea of the styling theme was to gracefully combine the long classic hood and traditional Duesenberg radiator shell into the modern "envelope" body and fender theme—something like they tried to do on the Continental Mark II. It was a tough challenge, but this present-day Duesenberg could fit into the '59 market.

(Regular departmental feature, **CLASSICOMMENTS**, appears on page 78.)

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**Automotive Products**  
DEPT. MT-3, 2055 RUBY ST., MELROSE PARK, ILLINOIS

## THREE-WHEELING

continued from page 37

long radiator made by cutting a Nash core in half and putting it together end to end. Air is scooped through the cooling core by the car's forward motion via curved ducts that also house the electric blowers. Should engine temperature reach 140° F, the blowers start automatically, a small green dash light indicating when they are operating.

Total weight of the test chassis is 2520 pounds (1020 on the front wheel, 1500 on the rear wheels). Braking loads are naturally higher on the front (a 1947 Ford wheel and brake), but the car seems to do its share of stopping with the 1950 Lincoln brakes on the rear. Several hard stops from 65 mph did not produce any noticeable fade, but we could detect a faint odor from the linings and a wisp of smoke. Shifting of weight in stopping can cause the front wheels and brakes to take as high as 75 per cent of the total weight, which is a pretty good burden for two wheels, much less one.

Another problem with fork-type construction of single front wheels is tire changing and brake relining. Tubeless tires can be repaired without demounting, but brake repairs would require removing the wheel.

Body plans are rather unusual as they call for reworking 1950 Lincoln four-door sedan body panels. The front of the Vortex will be enclosed in a sectioned Lincoln rear deck and quarter panels. Doors will be the rear doors from the Lincoln, and the rear will have an overall width of 77 inches, with Lincoln hood becoming the engine compartment hatch, and sectioned front fenders covering the rear wheels.

Jerry finally decided that a '58 Chrysler windshield, turned upside down for greater backward tilt, would conform well to a fiberglass removable top. Current plans call for some unusual ideas concerning this top.

As the car will be air conditioned, air sealing is important to maintaining cooled ventilation without a huge refrigerating unit. When attached, the top will contain the side and rear windows. Side windows are removable but do not roll down. To facilitate entry and exit, a hydraulic piston tilts the top backward when either door is opened, returning it and windows to a tight seal with side and windshield when closed. For open air touring the top can be removed or the side windows snapped out.

Except for those who desire something really different and will take the time to learn to drive a three-wheeler, this type of construction has no real advantage over conventional four-wheeled vehicles. Parking, either backing or straight in, is about the same as with any other car, since the turning circle has to be limited for safety reasons mentioned earlier.

Jerry Woodward is no stranger to custom cars. He won the 1957 "America's Most Beautiful Roadster" award at the National Roadster Show in Oakland, Calif., with a car of his creation, and the current "Vortex" is just one of many idea cars he intends to build. Should this one attract enough attention when finished, he is prepared to build about 10 a year on order.

# MTRENDS IN NEW PRODUCTS

Information below is based on news releases from the manufacturer or distributor. Motor Trend has not tested or necessarily endorsed the products. Tested items are featured in our Product Use Tests.

**McHAL ENTERPRISES** of Hawthorne, Calif., have announced the availability of their all-new Speedway Model crash helmet. A laminated outer shell molded with layers of plastic-bonded nylon and fiberglass is stronger and lighter than previous models. A new liner, composed of a fast-accelerating shock-absorbing material, laminated to a newly developed slow compression, slow rebound, semi-rigid layer, increases comfort and protects against repeated major shocks.

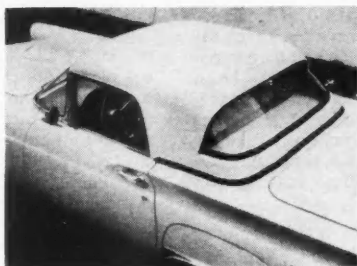


The new outer shell is one of the few currently on the market that have survived the tests of being run over by the fast-turning stainless steel propellers of hydroplanes. Padded neckpiece and a snap-fastening chin strap with nylon web and friction buckle secure helmet comfortably. Large-size detachable visor and flip-back shield are extra-cost items. These helmets are distributed in the East by Birchard Sales Co., 449 S. 5th Ave., Mt. Vernon, N. Y., and in the West by Webco, Inc., 218 Main St., Venice, Calif. Prices are: \$36 for the helmet, \$2 for the visor, and \$9.95 for the shield.

**AUTHENTIC PRINTS** of aristocratic cars of years past can add a distinctive touch to that living room, den or office. The prints of original Leslie Saalburg paintings are reproduced in full vibrant colors, placed in typical and delightful period settings. Prices start at \$5 for a set of six 10" x 12" prints. Free illustrated brochure may be had by writing the Long Island Auto Museum, 3 Museum Sq., Southampton, N.Y.

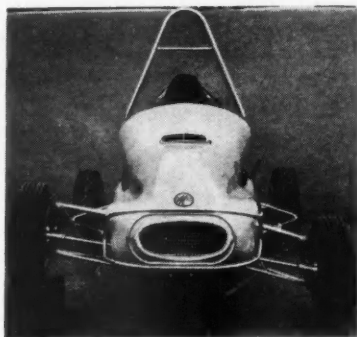
**PLASTICON** announces brand-new tops for the Thunderbird and Jaguar XK-150. Latest feature is the plastic foam headliner in white, gray, and pastel blue, that reduces noise, is spot-proof, and can be easily replaced if damaged. Thunderbird top has enlarged and recessed rear window of curved shatterless plexiglass with rubber seal, a feature of all Plasticon tops. The regular line of tops for Corvette, Austin-Healey, MG-A, MG-TD

and TF, Porsche Speedster, Triumph, Mercedes, Alfa and others is still available. All tops are furnished in black prime coat



with chrome-plated attaching hardware installed. T-Bird and Jaguar tops are \$225 f.o.b. El Monte, Calif., with some of the smaller tops for the imports slightly less, but all have a \$7 crating charge. Address queries or orders to Plasticon, 9721 Klinger-man St., El Monte, Calif.

**MOSS QUARTER AND HALF MIDJETS** are midjet versions of full-blown racing machines—built, engineered and tested by race car builders and drivers. The latest models feature all-steel unitized frames, plus independent torsion bar front suspension adjustable from inside the cockpit, rack and pinion steering, aluminum brakes, tempered fiberglass bodies, and a choice of race-tuned engines. All of the safety features that can



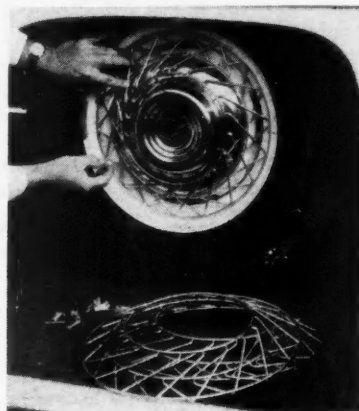
be put into a competition machine are included in Moss's latest creation for a fast-growing sport that attracts children and adults alike. Boys and girls from 3½ to 15 years old will fit nicely into the quarter size, and the half size will fit most Moms, Dads and teenagers. Available from Moss Engineering, 374 E. Beach Ave., Inglewood, Calif., the base f.o.b. price for the quarter model is \$565 and the half size goes for \$595.

**LITTLE KING DICK** is a husky adjustable wrench that is small enough to reach that hard-to-get-at nut or bolt. It has a solid one-piece body with smooth tight action that opens



jaws to a full 7/8-inch. Made with the same precision as its bigger brothers, this small English spanner is imported exclusively by Vilem B. Haan, Inc., 10305-07 Santa Monica Blvd., West Los Angeles 25, Calif. Price with real leather case is \$3.95 postpaid.

**SPORT SPOKES** by the Albert Frelich Co., 5560 Pershing Ave., St. Louis 12, Mo., are heavy-gauge chrome-plated bolt-ons that give a wire wheel look to standard disc wheels. They are actually made of wire similar in size and position to real wire wheels and will fit on any 15-inch wheel that uses a hub cap instead of a full cover. Small clips



bolt into wheel slots and fasten the Sport Spokes securely. A set of four costs \$9.95 postpaid from the manufacturer.

**MT**

## PRODUCT USE TESTS

CONDUCTED BY CHARLES NERPEL TECHNICAL EDITOR

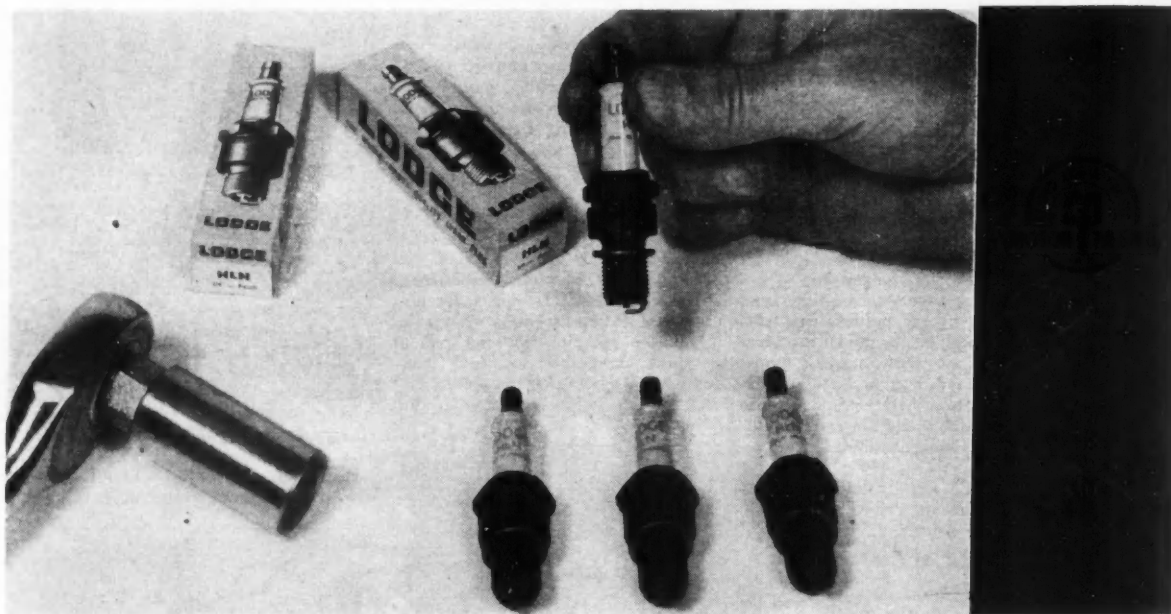
### LODGE SPARK PLUGS

**L**ODGE OF ENGLAND, who have been making spark plugs since 1904, have through the years of their existence, developed plugs for aircraft and racing engines. They have also continued research on their automotive plugs to produce what they believe to be as good a product for the price as is currently available in this highly advertised and competitive market. They make no fantastic claims about great increases in horsepower, or gasoline mileage. They do, however, say that they are able to maintain engine power and performance longer per set of plugs, due to excellent materials and production quality control.

lot of fast highway driving, sometimes close to 700 miles a week.

Here is a good fast way to check out plugs, which is one of the reasons we like to use this particular engine for this purpose. The test plugs were pulled once a week for visual examination and gap measurement. At 3000 miles electrode edges were still sharp, and the gap was still at the original setting. Center insulator showed the proper heat range for the fuel mixture, with no signs of fouling. This engine has 60,000 miles on it and has not been ringed or bored.

A Formula III racing car that we play with a lot and race occasionally is powered with a very wild alcohol-burning one-cylinder



For testing, MOTOR TREND had several sets of off-the-shelf standard Lodge automotive plugs of the type available for replacement units in all domestic and imported automobiles. Plug life, under normal engine operation, falls off in efficiency as the electrodes start to erode from use. Lodge claims they are able to reduce this by using chromized electrodes, a flash plating process. These plugs also have a full floating captive gasket. A small lip on the inside edge of the copper seal prevents it from falling off during installation and still allows it to center and seat properly without crimping or binding.

One of the cars used frequently by MOTOR TREND for testing various products, a 190 Mercedes, was selected for plug tests because of the high plug electrode erosion caused by the resistors in the ignition circuit. The high tension lead and each plug wire from the distributor have built-in resistors to reduce radio receiver interference. The stock plugs require regapping every 3000 miles, or hard starting and poor fuel economy will result. This car gets a

engine that requires very cold heat range plugs. We use Lodge racing plugs in a complete set of heat ranges to suit various climatic conditions and fuel mixtures, and we have been using the same set for several seasons with no measurable electrode erosion.

From our experience with actual use of these plugs under severe conditions, the Lodge standard and racing plugs are quality products that meet the manufacturer's claims. They are available throughout the world and are distributed in the United States by the Lodge Spark Plug Co., 401 E. Washington Blvd., Los Angeles 15. Standard plugs retail for \$1.10 each, and racing plugs vary in price.

The Lodge Co. maintains an information service for racing and special application plugs and can advise plug type if they receive the following information: type of engine and supercharger, if any, size of plug thread diameter and length, type of cooling, compression ratio, type of fuel and type of competition.

Lodge also makes three pointed and extra-range silver plugs for stock replacement that MOTOR TREND will test in the near future.

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## TRACTION- MASTER SHOCK ABSORBERS



**T**HE TRACTION-MASTER CO., whose rear axle stabilizer unit has successfully eliminated axle windup and body sway on thousands of satisfied customers' cars, is now manufacturing and marketing tubular hydraulic shock absorbers. In addition to a complete line of rugged shocks for all domestic cars and most of the imports, they also have a complete line for competition and high-speed.

When we asked to see a cutaway to examine the interior construction, they had no fancy chromed and painted unit for this purpose. Instead, they pulled one at random off the stock shelf and went to work on it with a hack saw. In a few minutes the cuts had been made, the fluid drained, and the innards exposed for our inspection.

The inner chamber of the double-chamber unit houses a husky piston that rides in the barrel in a tight but smoothly honed fit. Generous valves and spiral fluid dampener grooves in the outer case are well made and the piston rod is husky. These are sealed units and not demountable for repair, but this hardly seems necessary as they have a 50,000-mile guarantee.

## PLASTIC STEEL

**P**LASTIC STEEL, a fast-setting liquid mixture composed of 80 per cent finely pulverized steel particles and 20 per cent air curing bonding material, is a product of the Devcon Corp., Danvers, Mass. Used in industry for filling holes that have been incorrectly drilled, and making plastic and rubber molds, Plastic Steel is now available in small quantities for home use.

The home package contains a quantity of the material and a small vial of hardening agent, exactly the right amount to treat all of the Plastic Steel in the package. Once mixed, the Plastic Steel takes on a putty-like consistency that can be worked with a spatula or similar tool. It must be used within 20 minutes after mixing, as it starts to harden beyond that time. It is possible to divide the material and the hardening agent into equal parts if a smaller quantity is desired. It keeps indefinitely until mixed, after which it must be used within the specified time and cannot be stored, as it will set quickly, even under water.

The reports below are based on actual tests by MOTOR TREND'S staff, and when necessary, on observation and control of outside test facilities and laboratory analysis. MOTOR TREND'S seal of approval appearing with the test report or in any future advertising of the specific item tested by us, means that the product has lived up to the manufacturer's claims for it.

A set of standard 50-50 units was installed fore and aft on a '55 Dodge sedan that had had excellent care and whose owner thought it "rode pretty good." Frankly, while this car had less than 50,000 miles on it, and was still on the original shocks, they were not doing much good any more. With the Traction-Master shocks we noticed a much more stable ride, slightly harder than before, but with greatly improved handling and practically no dip on heavy braking. The owner, who knew little about shocks and their effects on ride and handling, was amazed to find that the car he had babied for so many miles now rode better and was more stable than when new.

Porsche, with that wonderful trailing arm - swing axle - torsion bar suspension, is pretty sensitive to the type of shocks that are used on it. A set of regular Traction-Masters, replacing the stock shocks, were easily installed and we were off on a test run. Ride was slightly harder than with the stock dampeners but we were running highway pressures in the tires. Reducing the tire pressure to that recommended for city driving just about equaled the ride of the old shocks.

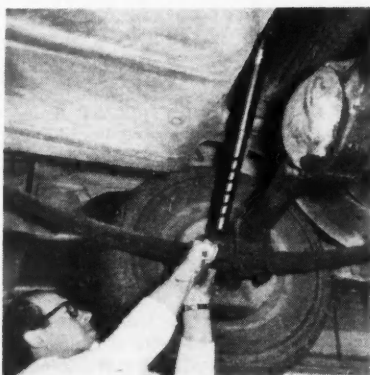
Back on the highway and with the tires up to highway pressures, we tried some fast cornering on rough roads, sticking that inside front wheel right into the bumpy road edge. This usually produces quite a bounce on the lightly loaded wheel, but we could not get this to happen with the new shocks. On smooth, high-speed turns even the normal slight lean was reduced, as was the slight oversteer that occurs with swing axles.

The boys at Traction-Master Co., Dept. MT-3, 2917 W. Olympic Blvd., Los Angeles 6, will be happy to quote prices on high-speed and competition models; the standard units sell for \$13.85 each.



*Shocks fit stock Porsche brackets but rear wheel removal makes installation easier.*

*Replacement unit for stock domestic cars gives firmer ride and improves handling.*



One of the hardest things to bond to is aluminum, and as it is a rather soft metal it is great for thread stripping. We drilled a 1/2-inch hole in a bar of 24-ST aluminum, cleaned the cutting oil out of it and proceeded to refill it with Plastic Steel. To prevent the liquid material from running out the bottom, a piece of cardboard was placed over the hole and filling was done from the top with the blade of a screwdriver. The hole was carefully filled to avoid air bubbles and packed slightly over the top just in case shrinkage pulled it in.

After two hours at normal room temperature the material was hard enough to work. Our built-up area at the top of the hole showed no signs of shrinking and was easily filed off. Peeling the cardboard off the bottom revealed no shrinkage and was so even with the original surface it required no smoothing other than lightly sanding off the remnants of the cardboard. The filled hole was then drilled and tapped for 1/4-20, and a slotted screw of the same size screwed into the hole.

Using a bushing to put the pressure around the outside of the



## PRODUCT USE TESTS

continued

hole and exert a lot of pull on the threads, we were able to tighten the screw to the limit of our strength with a screwdriver without pulling the threads. Increasing bushing thickness until there were only five threads of the screw in the hole, we repeated the operation without a sign of thread stripping or pulling the Plastic Steel plug from the hole.

The product is sensitive to oil and grease and will not stick to surfaces that are not absolutely clean. This can be used to advantage, especially if a tapped hole is required and there is no tap available. If the stripped hole is filled with the material and the desired bolt is coated lightly but well into the threads with grease before insertion, the Plastic Steel will set up and hold around the threads but still allow the bolt to be unscrewed.

Automotive and shop uses are only part of the wide variety of problems that can be solved by this product. Around the house it is invaluable for tightening up loose pot handles and stripped-out drawer and door handles.



It should not be used where it is subjected to high heat such as in exhaust manifolds or the bottoms of pans or skillets, as the manufacturer warns against exposing it to temperatures exceeding 300° F. The package shown sells for 98c and is available in variety and hardware stores and some supermarkets, which often sell two packages for \$1.89.

## HEATH ELECTRONIC TACHOMETER



**O**NE OF THE MOST INTERESTING and gratifying use tests we have performed in a long time was the assembly of Heathkit's do-it-yourself electric tachometer. If one can visualize an electronic jigsaw puzzle, with each part and procedure so well marked and explained that it can be assembled in one evening at home with a few hand tools and a soldering iron—that is the Model TH-1 tachometer.

Designed primarily for boats, inboard or outboard, two- or four-cycle, two, four, six or eight cylinders, coil or magneto ignition, the two-unit instrument can be adapted to automobiles or engine test panels. Included in the kit are a moisture- and fungus-proofing solution and a 110-volt, 60-cycle neon lamp calibrator for setting the instrument for varying stroke cycles and number of cylinders and maintaining its accuracy during use.

A choice of two circuits, one for six- and 12-volt operation, the other for 24- and 32-volt use, is supplied. This allows the builder to cover just about any application he desires. Battery voltage is necessary to operate the multi-vibrator and the meter amplifier, but current drain for these functions is so low that a dry cell lantern or fence battery will operate the unit for a long time.

The greatest advantage of the Heath Electronic Tachometer is the ease with which the speed of an engine can be measured. The only connection with the engine is a clip which fastens to the high-tension lead

from the ignition coil. It is not even necessary to make a metal-to-metal connection, as the clip will pick up the high tension impulses coming through the insulation.

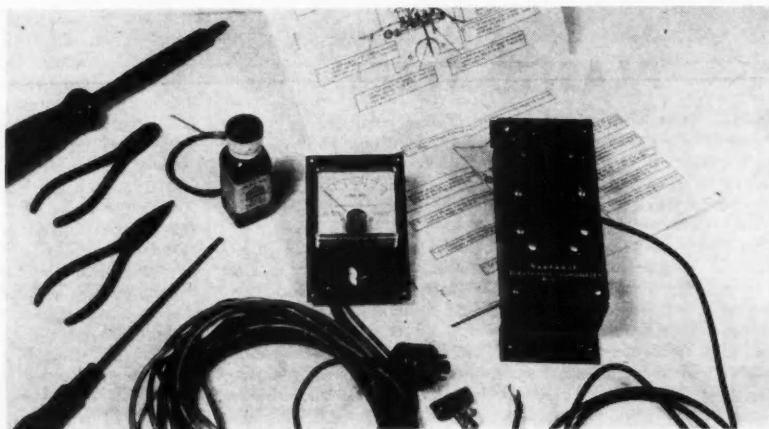
For magneto ignitions, the clip is fastened to one of the spark plug leads. Ignition pulses picked up by the wire clamped to the high tension lead are fed into a bi-stable multi-vibrator that utilizes two germanium transistors. The output of the multi-vibrator is fed into the instrument meter amplifier that uses another germanium transistor. Boiled down to simple language, here is what happens:

As the speed of the engine increases, more impulses are fed into the pickup unit. These pulses cause more current to flow through the meter amplifier and the meter itself which indicates rpms. A voltage regulator

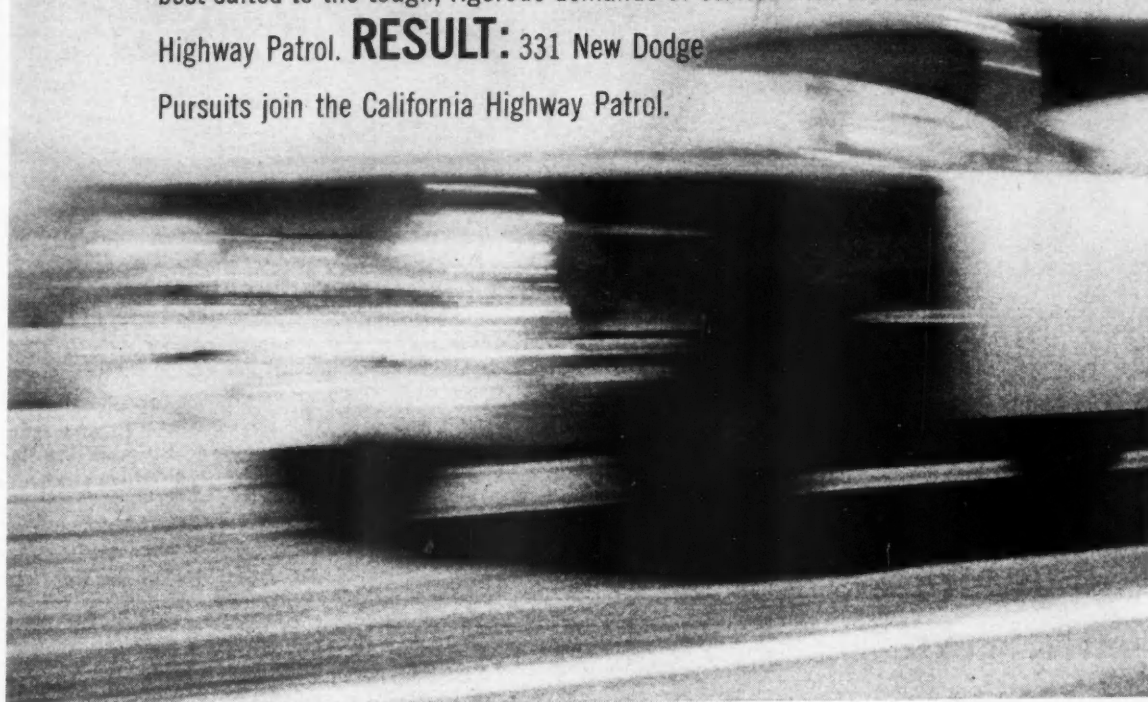
built into the unit controls battery voltage so that it may be used on six or 12 volts without any circuit changes, or 24 or 32 volts with the alternate wiring for these voltages.

The only tools you'll need are a screwdriver, long nose pliers, small cutters, pen knife, a soldering iron with a small tip, and most important, resin core radio solder. The latter is not furnished in the kit, but Heath's wonderful warranty against defects in materials, workmanship and operation does not apply if acid core solder or paste fluxes are used.

For a fine instrument with a variety of applications, the Heath Electronic Tachometer is not only fun to build but a terrific buy at \$25.95 f.o.b. from Heath Co., Benton Harbor, Mich.



**TIME:** November 19 to 20. **PLACE:** International Stock Car  
Speedway, Riverside, California. **PURPOSE:** To Determine the car  
best suited to the tough, rigorous demands of service with the California  
Highway Patrol. **RESULT:** 331 New Dodge  
Pursuits join the California Highway Patrol.



## DODGE Performance Proves Itself!

The men responsible for specifying the patrol cars for the California Highway Patrol don't guess about performance, they test for them-

selves. Here are the results of the competitive tests they ran this year in determining which car to select for their official use.

### ACCELERATION TESTS

- Test No. 1—Quarter Mile Standing Start  
1st—Dodge averaging 86.89 mph.
- Test No. 2—Quarter Mile Flying Start at 50 mph.  
1st—Dodge averaging 91.24 mph.
- Test No. 3—One Mile Standing Start  
1st—Dodge averaging 117 mph.
- Test No. 4—One Mile Flying Start at 50 mph.  
1st—Dodge averaging 122 mph.

### BRAKING TESTS

- Shortest stopping distance in a panic stop from 60 mph.  
1st—Dodge



If you're looking for a car that not only looks like a dream in the driveway, but handles like a dream on the road as well, see your nearby Dodge Dealer. He'll be glad to show you one in your choice of colors, body styles and accessories. There are six engine options to choose from, but that great handling, braking and cornering is standard on every model.

SEE • DRIVE • TEST • the '59 DODGE

# DRIVING THE QUICK CHRYSLER 300-E



by Bill Callahan Detroit Editor

**C**HRYSLER'S 300 SERIES always has been a rather torrid line, but the 1959 "E" series moves even quicker than the 1958 "D" series. For those who have the \$5318-plus (or dream like we do), we would like to pass on these driver reactions. Certain allowances should be made for the fact that Detroit weather has not been conducive to accuracy in road testing. Even where snow had vanished, a residue of salt served as a fairly good tire lubricant.

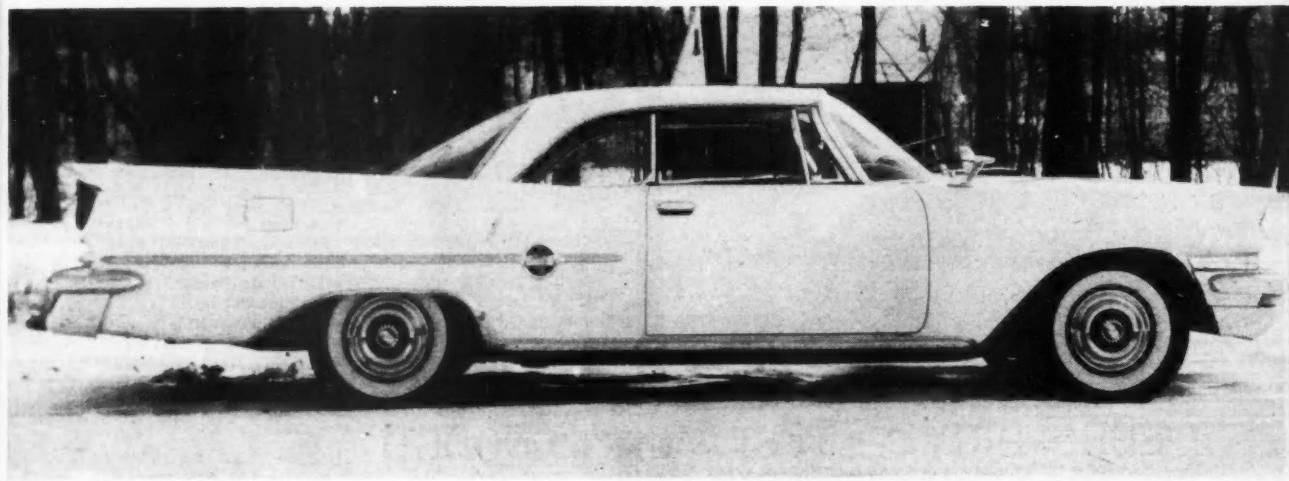
For sheer driving fun the 300-E, despite its size, is difficult to match. It is hard sprung and surefooted. Steering is fast, with  $3\frac{1}{2}$  turns lock-to-lock. The car has a fascinating faculty of going exactly where you aim it. Cornering on flat turns is real fun. The power booster reduces steering effort to a minimum, yet a good feel of the road is retained. The 251 square inches of braking surface provide positive stopping with good fade resistance, and the suspension eliminates diving on hard braking effort.

Performance of the 300-E tops its predecessor by a good margin. Our speedometer check showed the reading right on the ball at 30 mph, at true 45 it read 47 and at true 60 it was only three miles fast. This is about as close as most speedos run. The 300-E this year weighs a little over 4300 pounds at the curb. The big 380-hp engine (with 10.1 to 1 compression, improved TorqueFlite transmission and 3.31 to 1 rear end) handles this poundage with no difficulty at all.

Despite bad weather we were able to turn in some very good acceleration times. In one category—zero to 60—we did better than Chrysler Engineering claimed. Our average for the best four of eight runs was 8.2 seconds, while Chrysler claims only 8.3. In the 45 to 60 range we showed an average of 2.6 seconds. From 50 to 80 our average was 6.9 seconds. Chrysler Engineering comparative figures between the 300-D and 300-E are: 0 to 30 for the D was 3.7 seconds against 3.4 for the E; 0 to 60 was 9.7 seconds for the D and 8.3 for the E; 0 to 90 for the D was 20.6 seconds against 17.6 for the E.

The interior of the 300-E is tastefully done in natural color embossed leather, perforated to permit breathing. The headliner is plain natural leather. The front seats, divided by a fold-down armrest, are modified bucket types which offer excellent comfort. The rear seating is so-so. Visibility all around is excellent.

On the minus side we would say the 300-E is a little too light in the rear, resulting in wheelspin even on dry pavement when pressure is applied. It does not affect directional control. This could be helped also by the addition of a limited-slip differential. Instruments are easily read as placed but we prefer locating the speedometer in the center of the panel rather than at the left. A drop-down center armrest in the rear might be desirable. The 300-E—for the purpose it is designed—is hard to beat.

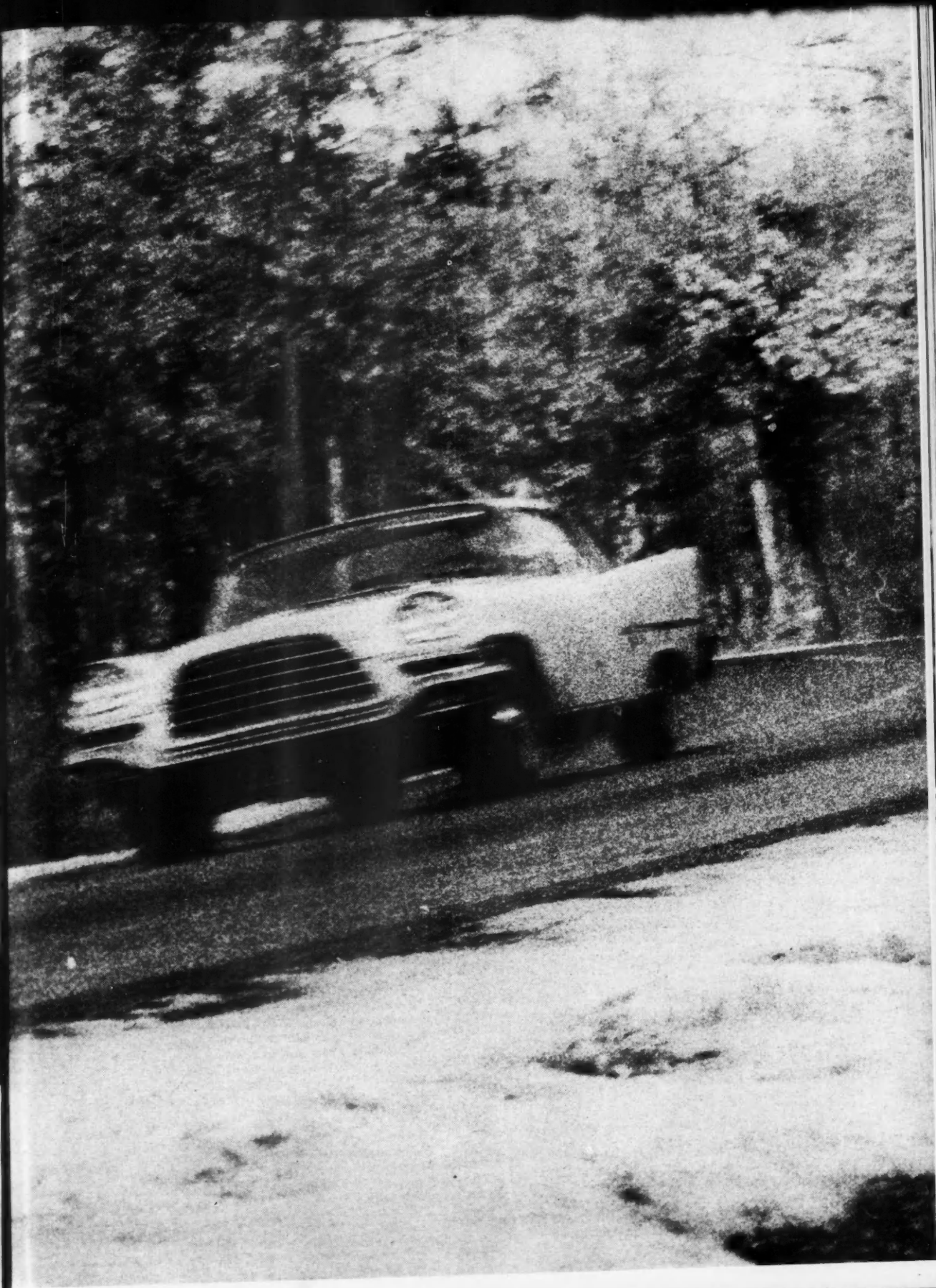




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When it comes to an

# ENGINE TUNE-UP

... what can you expect for your money?

by William Carroll

**P**OSTMEN ARE THE ONLY PEOPLE I KNOW who walk and read without bumping a nose on the nearest tree. This was proved a couple weeks ago when our mailman, Art, threaded his way from house to house with my copy of MOTOR TREND under his nose. I had my car in the driveway, putting on new wiper blades. Art loaded my mailbox with its usual collection, finished reading, put MOTOR TREND into the box and started next door before he noticed I was silently applauding his performance.

"Hi! Bill," he said. "How's things going? Say, that was a good story on buying cars you wrote. But it left us guys with transportation wheels out in the cold."

"You're not so far out," I tell him. "There are plenty of places that'll do a good job of keeping an older car at peak performance."

"That's what you think," Art says. "A couple of weeks ago I had my car tuned and it doesn't work any better than before."

"What do you expect for your money?"

"Who knows? You tell me, Bill. What should a guy get when he spends money to have his engine tuned? Most of my friends aren't quite sure what a mechanic should be doing, and I'm not much smarter."

"COME HERE FOR A MINUTE," I reply, "and we'll pop the hood of my car. I'll show you what it takes to tune an engine." I unlatch the hood while Art plunks his mail sack in the driveway to relax an aching back. "Everyone knows what spark plugs are, and they are the first things a mechanic should check. He should unscrew them and, if not obviously worn beyond repair, clean, adjust and test each plug individually. The sequence is important, for if he tests a plug as it comes out of the engine, it may not function at all. Then you spring for a new set of plugs when only regapping and cleaning were necessary. While the plugs are out, he sticks a 'Compression Tester' against the spark plug hole, and spins the engine with the starter. The gauge is a large edition of a tire gauge and measures the amount of air pressure inside the engine. What's important here is that the cylinders be within 10 or 15 pounds of each other. If they're not, the world's best mechanic couldn't possibly tune the engine."

"Why, doggone that guy! He didn't do either thing for me," Art says. "What a dirty trick! The mechanic took my plugs out, said they were dirty and sold me a whole new set. He didn't even try to clean or test them."

"Sure, I know that's done, and you can't blame him either. Profit on a set of new plugs is about four times the profit for cleaning. The only thing any of us can do is make sure plugs are tested before rejection. Come around on this side, Art. You know what the carburetor is? That part of the engine underneath it is called the intake manifold. Nuts and bolts holding the carburetor to the intake manifold, and manifold to the engine, should be tightened. Otherwise your engine may run unevenly. Next, a good tune-up man checks and adjusts tension of all drive belts. You can see the power steering belt and generator water pump belt. Each should be adjusted before anything else is done."

Art leans forward, grabs the generator belt and gives an experimental tug to get an idea of how stiff it should be. "What does he do next, Bill?"

"CLEAN BATTERY CABLES, TIGHTEN TERMINALS, and grease or oil the battery posts. Some cars have a felt washer under the terminal, which should be oiled to prevent corrosion. If you've been bothered by a slow turning starter, ask him to check the battery charge. Here,

at the back of the engine is the distributor—a mighty important little gadget. It's usually on top of V8's or at the side of sixes."

"Sure, I know what that is," Art says, "but won't I get a shock by touching the wires?"

"Not unless the key is on. Of course if you pull any of the wires out you'll really have trouble, as it takes figuring to install them in the proper sequence. Your good tune-up mechanic takes the cap off, which lifts with all the fat rubber wires going to spark plugs, and adjusts or replaces the breaker points, or condensers. For that matter both are inexpensive and most mechanics replace them every 10,000 miles as a matter of habit. Unfortunately, few men take the time to wipe inside of the distributor cap with a clean dry rag. This is fairly important, because dirt inside the cap steals current from the spark plugs. After cleaning and replacing the distributor cap he should make sure all spark plug wires are pushed in tight."

"Down here in front of the engine, Art, you'll notice the fuel pump. If the pump on your car has a little glass bowl on the bottom, or there's a bowl in the fuel line to the carburetor, your mechanic should remove and clean the bowl. It collects a lot of water and dirt within a few months."

"Now that basic adjustments are made, the next operation is clipping the flashing light to a spark plug wire and adjusting the ignition timing. It should be set to factory specifications listed as 'Degrees of Advance,' unless your car is more than three or four years old. Such cars may be run a few extra degrees beyond factory recommendations, because of the recently improved octane quality of gasoline."

"Is it necessary to warm the engine to set ignition timing?" Art wants to know.

"No, but it is necessary before you adjust the carburetor. In fact some manufacturers advise that engines be run at least 20 minutes, before final tuning."

"That's longer than my mechanic took for the whole job," Art replies.

"KEEP IN MIND WE'RE TALKING ABOUT the best job, not the tune-ups most of us pay for," I tell him. "While the engine is running, the speed at which it idles should be set to factory specifications. Then a mechanic adjusts the idle needles, which stick out from the base of the carburetor, so the engine runs smoothly at recommended speed. If valve adjustment is required this is taken care of now, as is checking manifold vacuum."

"To check vacuum a mechanic uses another large gauge, somewhat like that used to make a compression test, and plugs its rubber hose onto the windshield wiper suction fitting or similar attachment on the intake manifold. While the engine is running this little meter needle scoots around the dial depending on how far the throttle is opened. With the engine idling at factory specified speed the meter should read fairly high. If it doesn't, your good tune-up man will begin to look for trouble in the valves or fuel intake system."

"Now, Art, over here on the right side of the engine way down underneath the exhaust manifold is the exhaust gas control valve. Almost every car has these gadgets hung on one side or the other. They're important and should swing freely at all times."

Art reaches down and grabs the valve counter-weight. "This doesn't move, Bill," he says, "I can't wiggle it at all."

"You're kidding." I go over and grab the weight. Darned if it isn't stuck.

"This is great, Art. I'm telling you what should be done to your

car and here mine has a stuck valve." I go into the garage, find an oil can filled with kerosene and with a few squirts free the valve so Art can see how it works.

**"THE LAST THING NECESSARY** for a decent tune-up is inspecting the cooling system for leaks. You can look around, here—where hoses fit on the engine—and see if there is any water or anti-freeze coming out. And take off the radiator cap to see if there is any rust or oil in the water."

"This I understand," Art says. "and I'll use your comments to make a list of procedures, which most good mechanics follow. But how can I check up to determine if he's done a good job?"

"Drive it," I tell him. "Take your car out and give it a road test."

"Oh, this is great! I know how a mailman's feet should feel but how do I tell anything about car operation?"

"It's not too difficult. Take your car where there's little traffic, drive at low speed and observe engine performance. When you hold the throttle steady see if the speed remains even and smooth, or if the engine appears to run fast and slow though you don't move your foot. Uneven running usually means carburetion is not properly set.

"How does the car accelerate when you push the throttle halfway to the floor? Does the engine gain speed smoothly or does it buck and make a lot of noise? When you're cruising at 50 miles an hour does the car run smoothly with the engine temperature needle remaining in the middle of the dial?"

"Finally, make a fairly fast stop to see if the engine stalls or begins to surge as gasoline sloshes back and forth inside the carburetor. Take a fast corner to both right and left to see if the engine dies or begins to sputter. Changes in engine operation when the car stops or corners are the result of faulty carburetor float level settings."

"I can do that, Bill. Is there anything else that makes sense?"

"Yes, several things. First, don't be ashamed to watch your mechanic and ask questions as he goes along. Good men appreciate intelligent interest in their work and are glad to explain what they are doing. A grease monkey who gives you the brush-off is also trying to pull the wool over your eyes by doing a lousy job or installing things that aren't needed.

"Some of our largest cities are plagued with smog or heavy concentrations of dust and smoke," I continue, "and I'm convinced that under such conditions, an occasional carburetor cleaning with solvent solutions is a pretty good idea. I'm not thinking so much of stuff poured through the carburetor to clean an engine, as I am of carburetor cleaners fed through the gasoline line. Dirt and junk in the air have a tendency to clog tiny carburetor jets, and solvents or cleaners will unplug them."

**"WHAT'S THE DIFFERENCE** between a 'Minor' and a 'Major' tune-up, Bill?" Art wants to know.

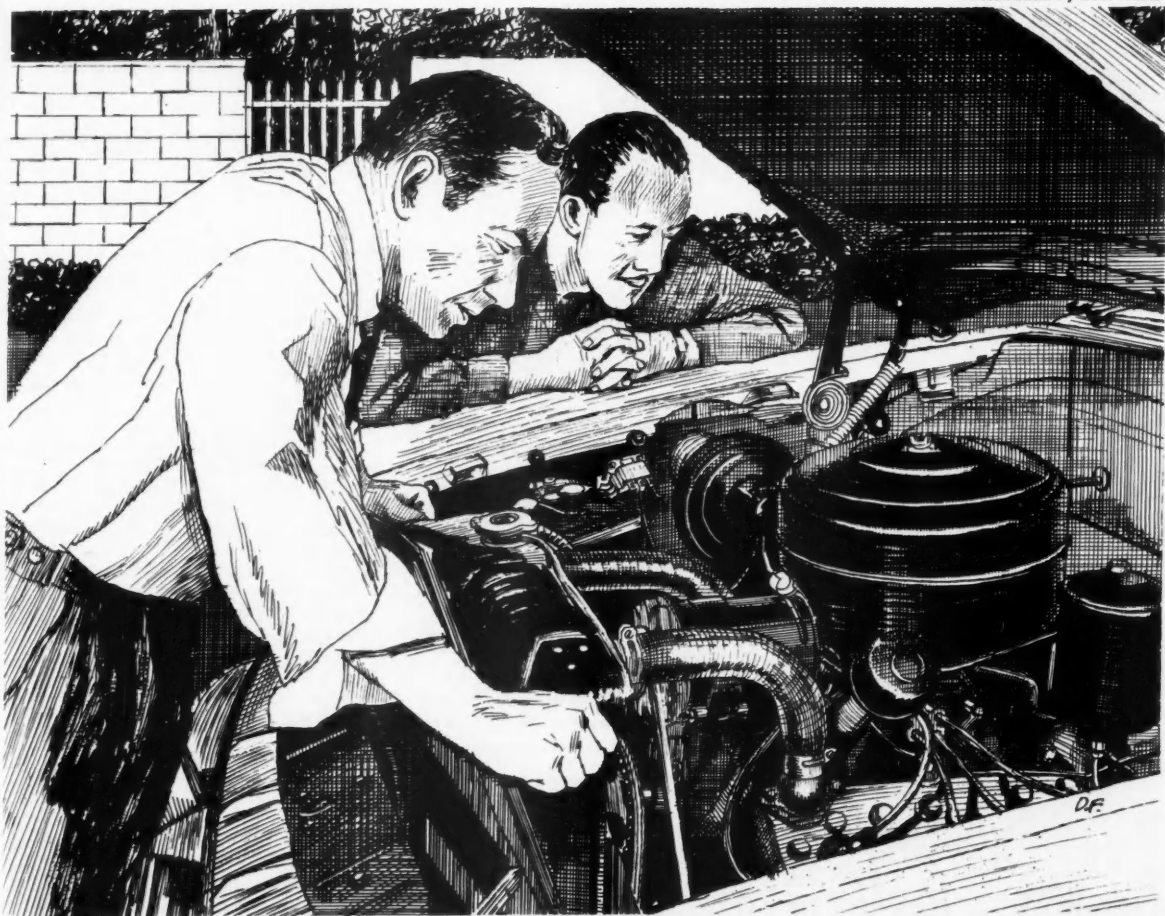
"Quite a bit. How about making a list?"

Art pulls out a notebook and writes down the sequence of "Minor tune-up" procedures: Plugs, compression test, tighten intake manifold, adjust drive belts, clean and tighten battery connections, service distributor points, clean distributor cap, clean fuel filter, check and adjust ignition timing, adjust idle speed and idle mixture. For a "Major tune-up" he adds: Adjust valves if required, check manifold vacuum, free exhaust control valve, check cooling system for leaks, and road test.

"That's not a big list, Bill. At least I'll know for sure whether the mechanic's giving me a good job or not. Thanks for the time."

Art shifts his load to a comfortable spot and starts next door while I complete the installation of the wiper blades. /MT

Illustration by Dick Fischer







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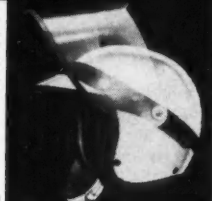


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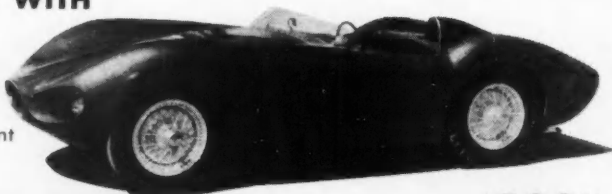
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## IMPOSSIBLE VICTORY

continued from page 34

mechanics were working on them up to the last minute. So when the cars were paraded before the start on a track shimmering in the hot sunshine, 80,000 Frenchmen hoped for the best, but conceded that the odds seemed strong in favor of a German victory.

The evening before the race, Chiron was home early, tired after a week of hard practice driving.

"After relaxing in a hot bath to get rid of the tension built up by bracing myself against the shocks from the rough circuit and the hard suspension of the car," he said, "I stretched out on my bed and reached for the evening paper. My eye fell on a big headline about an interview with von Brauchitsch who had declared, 'We shall win tomorrow because we are the strongest team.'"

"I was so mad that I could hardly eat dinner and I went to bed immediately afterward. For the first time in my career I had a thoroughly disturbed night. I kept waking up and I was in a mood of black depression over breakfast. I certainly was not sufficiently rested to face a race as tough as this 310-mile grind at Monthéry against the best drivers of the day, so I went along to have a massage, hoping it would calm my nerves. It worked so well that I fell asleep in the middle of it. When I awoke I felt like a new man.

"I GOT SOME FRIENDS to drive me to Monthéry so as not to get excited again. As soon as I arrived at the Chateau de St. Eustrope, which was our team headquarters, the chief mechanic, who was also Commandatore Ferrari's right-hand man, gathered the drivers together. He told me that I was to hold back and let Varzi set the pace. This was because my engine had just had some emergency repairs and was not expected to last the distance. I retorted 'Today I'm on my home ground and whatever happens I'm going to take my chance.'"

"He threatened to report me to the Patron, but I was determined to play it my way. The opposition acted as a stimulant and I was tensed up, raring to go. So tense in fact that I jumped the start!

"In those days, places on the grid were decided by ballot and not by practice lap times. Stuck (Auto Union) and Varzi (Alfa Romeo) were in the first row, with Carracciola (Mercedes) and Momberger (Auto Union) behind them. I was in the third row with Nuvolari and Benoist (Bugattis), and behind us were ranged Dreyfus (Bugatti), Trossi (Alfa Romeo), Brauchitsch (Mercedes), Zehender (Maserati), Etancelin (Maserati) and Fagioli (Mercedes).

"After the customary words of advice from the Clerk of the Course, I realized that the race was going to be started by some member of the government—a minister I think he was—and it went without saying that the start would be badly given; it always seems to be when public personalities are entrusted with the job. So I went to see Fourreau, the timekeeper, and asked him how he was going to organize it.

"At 10 seconds the Minister will raise the flag," he said. "I shall start counting at five seconds, and at zero I shall tug his coat and the Minister will drop the flag."



"LEAPT INTO MY CAR, taut as a coiled spring, and with engine revving, I watched the time-keeper. With five seconds to go I saw him start counting and I blipped my throttle in time with his lips. At the word 'Go' I let in the clutch and shot away like an arrow, but the flag was still hanging limp and it didn't drop for another second or two. By that time I had cut out and passed the front two rows and was flying off up the straight with Caracciola and Stuck in hot pursuit."

Autocar reported, "Quite deliberately it seemed Chiron's scarlet Alfa moved from the third row, the flag hesitated, dropped, and Chiron went straight by as the 12 other cars went off in one scream of sound." Quite deliberately too, the stewards noted that Chiron had jumped the start and settled down to discuss the appropriate penalty. But Chiron had only one thought: to get ahead of the Germans and stay there.

"I stayed ahead," Chiron continues, "until it was time to cut for the sharp dive down and quick rise to the treacherous humped right-hand turn at the Bretelles de Couard. Stuck cut first but Caracciola kept his throttle wide open and pulled alongside. He stuck it to the last fraction of a second, then looked across at me and tapped his forehead to show he thought I was mad (we were very good friends in fact)."

"He wasn't far wrong. I took off completely at the hump, and slid across to the left, heading for the ditch. I shall never forget that moment. Quite clearly, I saw above me a group of spectators, with Harry Schell's father amongst them. Then I hit the grass at the edge of the track and sent up such a cloud of dust, earth and flying stones that the two behind me thought I must be somersaulting in front of them and braked hard. By some miracle I managed to keep the car heading in the right direction, clawed my way around the sharp left-hander which follows, and found I was alone!

"I gave it the lot, working on the limit with engine, gears and brakes. But coming out of the Biscornes I spotted the two silver cars in my mirror.

"Stuck now moved up to attack and he got by on the straight by the Water Tower. I left my braking to the last possible second on the approach to the sharp left-hander at the end, re-passed him and gained a clear 300 yards."

**SO AT THE END OF THE FIRST LAP** Chiron's scarlet Alfa was in the lead as the cars swung off the road course onto the steep banking. He led as they howled past the grandstand, with Caracciola, Fagioli and Stuck behind him.

On the second lap, it was the same again but with Stuck second, Fagioli third and Caracciola dropping back to fourth, while Nuvolari pulled into his pit for new plugs.

Says Chiron, "The crowd thought I was leading all around the course. They didn't know what frantic efforts I was making to snatch back the lead each time we came to the end of the road circuit."

On the third lap the Germans really turned on the heat. Stuck got ahead and stayed there for the swoop past the stands. He averaged 90.4 mph for the lap, a new record. At four laps the race average was 87.77 mph; at eight laps it had risen to 88.39 mph as the scarlet Alfa battled wheel-to-wheel with the silver German projectiles.

continued



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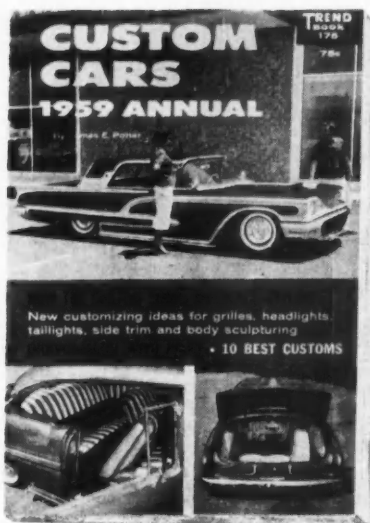


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## IMPOSSIBLE VICTORY

continued

Chiron relates, "I was taking off at every bump and braking in desperation at the last possible moment. Stuck and I were passing and re-passing each other on the long climb to Forest Corner when he came past, then slowed and signalled me on again—which I did with pleasure, having already smelled the aroma of burning clutch." Soon he was in at the pits to take on two new rear tires while mechanics looked at the clutch.

Caracciola's challenge had quickly faded, and Stuck's car was faltering. Now Fagioli moved up to challenge Chiron for the lead, putting in a new record lap of five minutes, 6.3 seconds for the 7.765 miles.

"Leaving the Biscornes I spotted Fagioli behind me. I knew him well. He was tough. I pretended I hadn't seen him and as we got to the tight diving S turn of the Chapeau de Gendarme I prepared a little surprise for him. I let him come within two car lengths and then instead of changing down into third, I dropped straight into second and tramped on the accelerator, using all the horses the engine could deliver. I just made it, swinging left and right like an acrobat on a tightrope, but Fagioli hadn't a chance. He swung wide at the left-hander and then went straight onto the grass, finishing up on the bank among the bushes. I watched in my mirror to see whether he got it back onto the road, but as I went into the climbing left-hander that follows, he was getting out of the car. He wasn't hurt, but the car was finished. However, I was afraid he still might get it going, so I pressed on and set up a new lap record."

THE MERCEDES PIT CREW was just ready to pull Fagioli in for fuel and a change of tires, and there was consternation when he failed to appear. The mighty German assault was simply melting away in the summer sunshine. Carracciola refueled and changed two rear wheels in one minute, 20 seconds, but that was the end. Soon afterwards Chiron saw him stopped at the roadside with a dead engine. Brauchitsch pulled into the pits while mechanics worked on his supercharger. Two laps later his engine blew up in a cloud of smoke at the Biscornes. The Bugattis were in trouble too and Nuvolari handed his car to Wimille.

Varzi was now second, and with Alfas in the first two places the pit signalled to Chiron to slow down. "I did nothing of the kind, but went on building up my lead until I had six minutes in hand—and this with an engine that wasn't expected to last the race." He led from the 10th to the 17th lap and set a new lap record at 91.4 mph. The Germans were not totally eliminated, he had no idea what the penalty for jumping the start might be and in fact he hardly expected to finish the race anyway, but he was enjoying himself.

At half distance there were only seven cars left in the race. Chiron took on fuel and four new tires in a beautifully organized stop which took only one minute, 39 seconds. Varzi then led for a lap, but when he too stopped for fuel and tires, Chiron went into the lead again.

Stuck was still struggling along in third place. At 20 laps Moll, who had taken over Trossi's car, overtook the Auto Union and Alfa Romeos were 1-2-3. **continued on page 66**

# The care and feeding of ... SPARK PLUGS

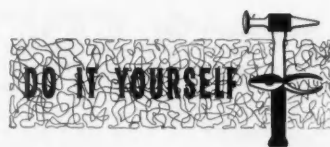


Photo Story by Steve DaCosta



Here's all you need for the job: ratchet, extension, socket, and gapping tool; hand-grip at left is optional. Wire brush used for cleaning.

**CARE AND MAINTENANCE** of spark plugs is an important periodical job car owners can do. Remove ignition wires secured to top of plug by a cap or sheet metal tube. Take a firm but gentle grip at bottom of connector, and remove wire intact.

Since length of ignition wire is no clue to correct plug attachment, mark each length with masking or adhesive tape on which plug number can be written (1, 2, 3, etc.).

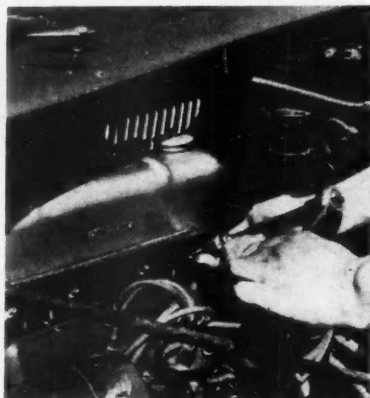
Use a deep socket to remove plug from engine. Be certain plug is inserted well within socket, and that socket is straight before turning-out motion begins. Lift out the plug gasket at same time.

A stiff wire brush makes a fine cleaning tool. A gapping tool is used to set plug points. Bend only outer bar, or ground contact; do not pry against electrode center. Adjust point settings to manufacturer's specifications. Wipe entire plug before re-installing, with close inspection to discover cracks or flaws. A new plug should replace any found faulty. Always use proper and sufficient tools, and use a torque wrench if possible on plug return. Otherwise, exert hand force equal to snug firmness.

This maintenance procedure should be repeated every 4000-5000 miles or whenever an engine miss is detected.



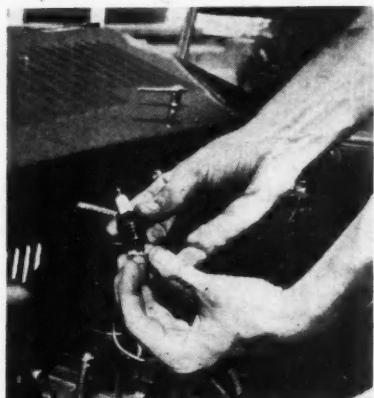
Affix numbered pieces of tape to wire ends for proper replacement after cleaning the plugs. Station loose wires away from plug ports.



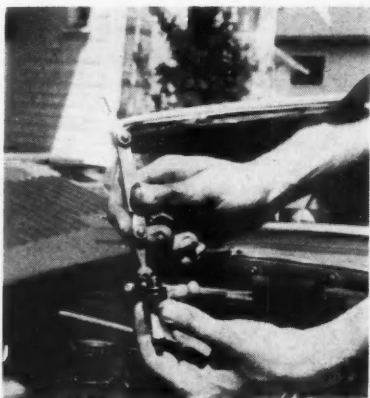
Take care in fitting assembled ratchet on plug to prevent chipping porcelain. Fit plug well into socket before turning-out motion.



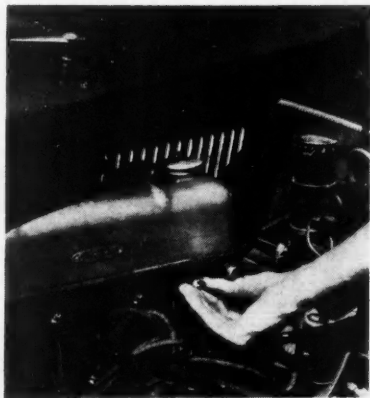
Thoroughly clean threads, seat of plug, rigorously brush interior around electrode. Use of vise, if handy, is preferable to hand-holding.



After wiping plug, return gasket to assure good seating on reinstallation. If gasket is worn, replace. Check plug for cracks, flaws.



Gapping, according to manufacturer's specifications, is important. Proper method to adjust gap space is illustrated here. Note position.



Finally, re-insert plug, screwing in as far as possible by hand. Use up to 30 pounds of torque force, or tighten with ratchet handle.



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## Around the World

continued from page 19

Compared with the old A-55, this one is one foot longer, two inches wider and one-half inch lower. A new SU carburetor boosts horsepower to 53—up two. Overdrive, Manual clutch and sliding roof are no longer offered.

**PERU** Automobile racing is an important sport in Peru, a country that can't even claim any vehicle production. Late in December, 40 drivers, including American Jim Rathmann, thrilled 150,000 spectators around 28 laps of the 22.6-mile Atocongo circuit, some of which uses a portion of the PanAmerican Highway. The rest is steep hairpins, broad curves and a section through the town of Atocongo. A strange assortment of cars is

stated that Rathmann made a lot of friends for himself and the U.S. with his fine display of driving.

**ITALY** Most surprising announcement in motor racing is Ferrari's statement that he will not race his cars on Italian circuits during this year. Adverse criticism from the Italian press and the Vatican after the deaths of Musso and Collins is said to be the reason. Further, he will not take the responsibility of employing Italian drivers. He will not compete in the Targa Florio unless the circuit is closed for official practice and he will not run in other events where organizers do not take what he regards as minimum safety precautions which he will state in advance. He will not compete in races where organizers impose their own chosen brand of fuel as permitted under new rules if this means breaking his contract with Shell. If all this



New Austin A-55 is work of Italian stylist Pinin Farina, shares common body shell with MG Magnette, Wolseley 15/160 with front, side trim and interior details altered. Horsepower is 53.

permitted under a Formula Libre rule which requires only that components in the car be all of the same make, not necessarily of the same year. First of the 16 finishers was Rathmann in a '58 Ford. Eleven minutes later Sergio Nader from Chile trailed in a Thunderbird-engined '48 Ford. Third was Eduardo Dibos in a '58 Ford, one of two which Rathmann had delivered from the U.S. on the night before the race. Observers

seems high-handed, remember that his team suffered a tragic season. Some of the press referred to race car builders as "... mass murderers in search of profits." Ferrari is convinced that he has done everything humanly possible to avoid accidents and that further responsibility rests on other shoulders. He will build cars for the new 1500cc Formula 1 in 1961, providing he is still building race cars then.

## IMPOSSIBLE VICTORY continued from page 64

Stuck now stopped for water for his engine and emptied some inside his shirt too. Soon afterwards coolant leakages crippled his engine and the last German car was out.

Chiron, with a lead of about eight minutes now, knew that if only his hard-pressed engine held together the race was in the bag, despite all the forecasts. He started nursing the engine, sparing every revolution he could. At the next pit stop he took on two rear tires and fuel in 55 seconds, the pit crew backing him up to the hilt. Varzi was not so lucky; he had time to puff on a cigarette while his car was replenished. Says Chiron, "I was driving like a lamb, imploring the good god of mechanical devices to hold my engine together to the end."

His average dropped steadily, but his prayers were answered. It was a near thing. "The last few laps were an agony of suspense. I only had first and fourth gears left and sev-

eral teeth were missing from the crown wheels. But at last I saw the checkered flag. Lady Luck had smiled on me."

**IT WAS A TRIUMPH** for Alfa Romeo and for the Scuderia Ferrari. Their cars were first, second and third, and were the only ones to complete the course. (Benoist was still running on a lone Bugatti.) Chiron averaged 85.05 mph and ended with a three-minute, 18-second lead over Varzi. He was penalized one minute for jumping the start, but this could not affect the result.

The crowd went wild with excitement. They waved, they shouted, they threw their cushions in the air, sounded motor horns and sang the *Marseillaise*. The German challenge had been staved off, at least for the time being. A French driver in an Italian car had achieved what had seemed impossible. *Viva Italia! Vive la France!* /MT



# Spotlight on Detroit

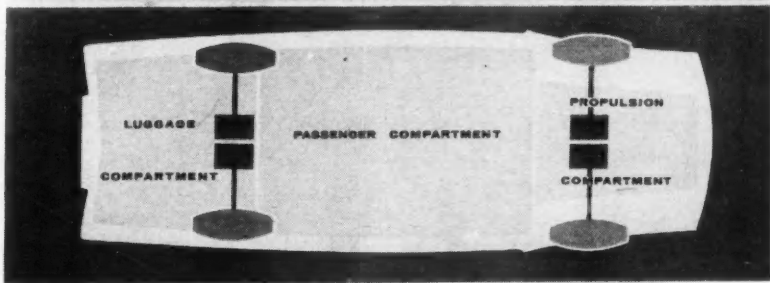
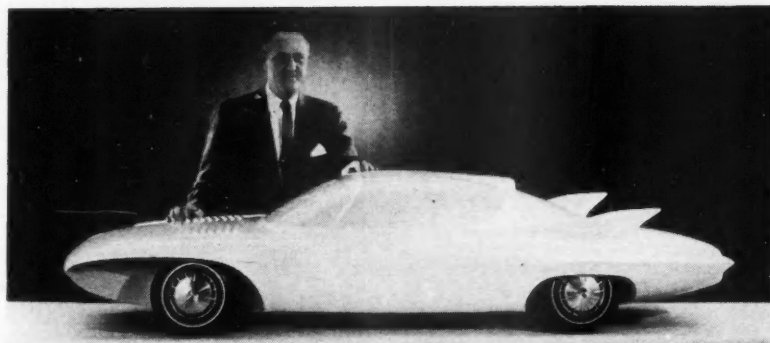
continued from page 12

gine of approximately 250 hp or better, driving two fans 8.5 feet in diameter. This would mean that a minimum of 170 hp would be delivered to each fan, providing a downthrust of 1675 pounds. The all-up weight of the vehicle is set at approximately 2000 pounds. Chrysler's investigations are concerned with the rigid rotor ducted fan design for simplicity, sturdiness, cost of production and less complicated controls. Others are working on designs employing four fans or rotors mounted at the corners of the platform which provide control through variable pitch in the rotors.

**PITCH, ROLL AND YAW** problems are manifold and quite critical in a platform of such limited size, but according to Mr. Gorton's paper, Chrysler is confident that these can be overcome by use of a series of vanes controlled by a familiar joy-stick and foot controls similar to those used in the present helicopter. In later use it is hoped to simplify these and make them quite similar in design to current automobile controls. Vanes in the forward rotor orifice can be controlled to deflect airstream to the rear, providing thrust and forward movement and at

the same time damping a tendency to nose-up when starting forward. Similar vanes are used to damp out roll and yaw. So far these devices have been tested only in wind tunnels and checked out by analog computer simulations. M. O. McKinney, a research engineer with the National Aeronautic and Space Administration, Langley Field, who also spoke at the SAE meeting, was less optimistic about use of vanes as a control method.

**MY MERRY FLYMOBILE** may thus be still some way in the future and there is still the problem of what does daddy do when his engine konks out. Even though designed to fly only at low altitude, sitting down in a dead-stick landing from a height of 50 feet might be quite disconcerting, to say the least. Nevertheless, my Pennsylvania Dutch grandmother used to say "where there's a will there's a way and—what is to be, will be, if it never is." Both Mr. Gorton and Mr. McKinney agree that the idea of an aerial Jeep is both practicable and feasible. Both agree that control problems are not insurmountable and much progress has been made toward their solution. It would seem that these would be solved well within the next half decade. /MT



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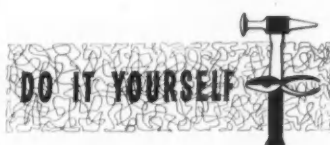


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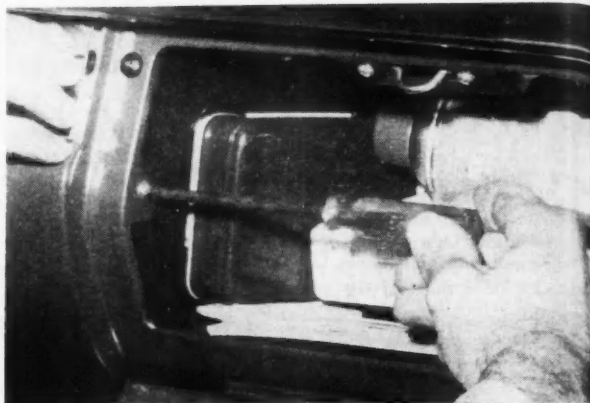
## Get rid of **RATTLES**

Photo Story by V. Lee Oertle

**F**EW SITUATIONS AROUSE THE WRATH of a car owner as quickly as a loose and rattling machine. After a year or two of faithful service, it suddenly becomes apparent that things are getting unglued. The new car is showing its age; the used car is no longer a bargain. Doors rattle, seats squeak, the trunk compartment sounds as though six midgets were trying to hammer their way out.

Fortunately, though, the irritations are usually easily silenced once located. Although the mechanisms fitted on the car to prevent and adjust door-slop should be attended to first, the tools to do so are often specialized and must be obtained at a garage or from new car dealer. Many dealers will perform this door-tightening task for you at no charge. Have them also adjust the deck-lid hatch, and on station wagons, adjust the rear gate latch where the window snaps shut.

On the main, however, body rattles can be traced to age. Under the dash, the heater and radio brackets may be loose, the handbrake squeaky, the instrument panel generally vibration-happy. A simple inspection of such vital points, with screwdriver in hand, often accounts for surplus noise. Other check-points are found in the accompanying photos.



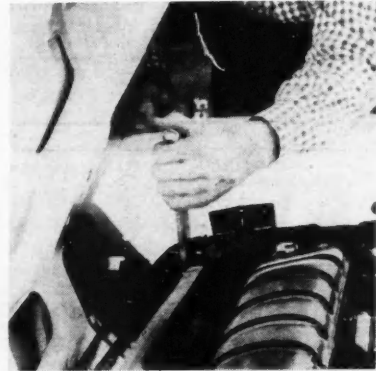
*Cleaning up catch-all glove compartment often eliminates mysterious rattles, as can tightening side-mount screws, door hinge, and latch.*



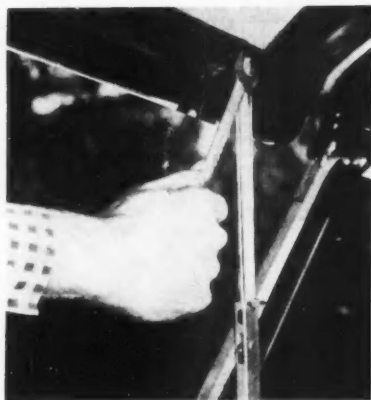
*When tail pipe brackets vibrate loose, pipe may rattle between axle and undercarriage. Tighten all clamps; check those on muffler.*



*Tighten external accessories, including license plate brackets, fog lights, plaques, bumper bolts. Lock washers should be used on nuts.*



*Hood rattles begin about second year of car life. Tighten hood hinge arms, check rubber seal and bumpers, adjust the locking book.*



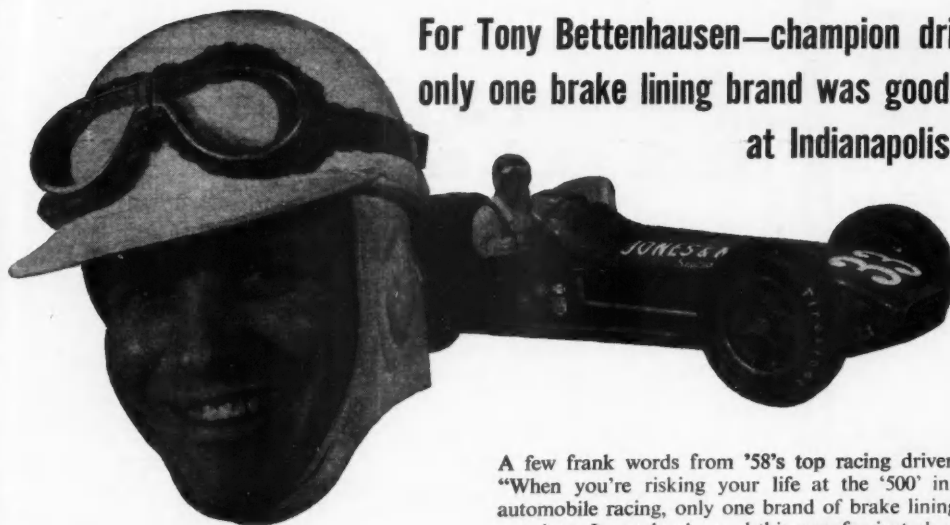
*Station wagons are often rattle-makers. Problem spots include rear window brackets, arms and hinges, and rear seat lock—easy to adjust.*



*To eliminate seat frame noises, inspect floor runners and cushion support rods of front and rear seats. Tighten bolts, lubricate runners.*



*Tools, tire chains, jacks, other loose items in trunk can produce annoying rattles: should be wrapped in cloth or held in spring mounts.*



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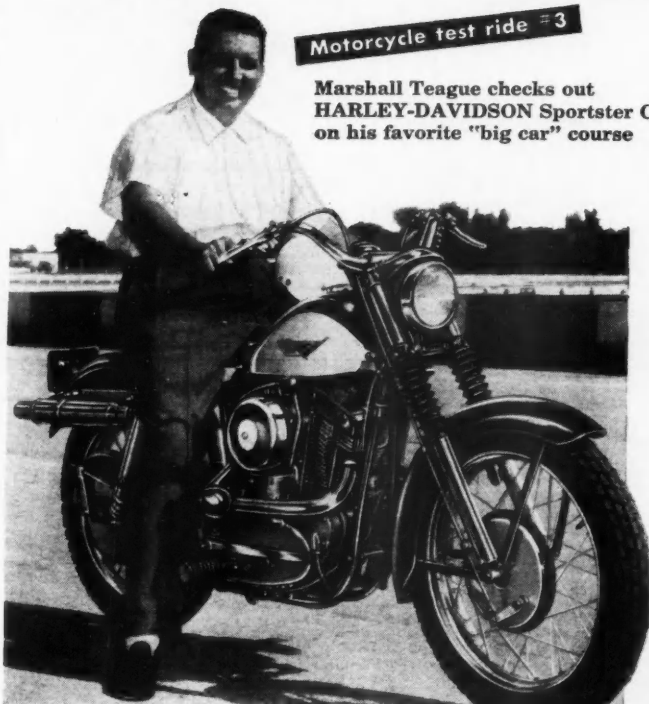
A few frank words from '58's top racing driver, Tony Bettenhausen: "When you're risking your life at the '500' in the toughest kind of automobile racing, only one brand of brake lining is good enough—the very best. In my book—and this goes for just about all the top drivers—that's Raybestos. We just can't afford to settle for anything less."

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# handy hints

by Rodger Darling

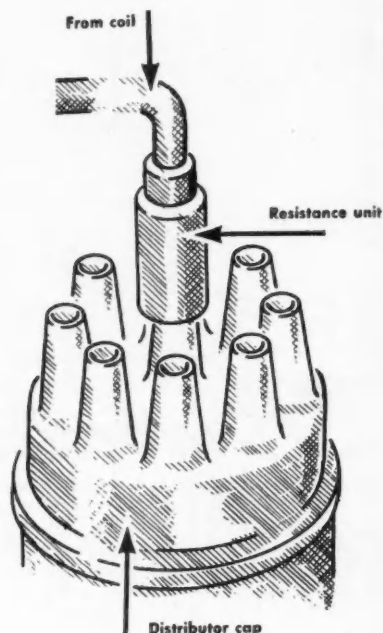
**HOW FULL IS "FULL?"**—Service stations report some new cars leave the assembly line with oil dipsticks that do not read true. Check yours. Next time you drain the oil (engine warm) do so with the car level, and let the crankcase drain completely. Refill exactly according to specifications (see your owner's manual) and after letting oil settle, take dipstick reading. If FULL mark does not agree with the now-full crankcase, file a new mark at the correct level to avoid overfilling, and—more important—adjust the ADD OIL mark correspondingly to prevent engine damage from running with too little oil.

**TELL-TALE TAIL PIPE**—Your car's exhaust pipe can give valuable clues to engine condition: A fluffy soot deposit inside the tail pipe is a tipoff of unburned gas waste (except in excessive stop-and-go city driving). An oil black deposit indicates oil-burning through worn rings, faulty valves, etc. Normal exhaust should show a crisp grayish deposit.

**LONGER-LASTING TORCH**—A burning waxed cardboard milk carton makes a good roadside work-light and warning while you change a flat at night, but unless you're a fast man with a jack it may not burn long enough. Instead, save a dozen milk containers and with the top opened or removed on one, pack it full of the other cartons tightly folded and with tops and bottoms cut away. You'll have a torch that won't take up more room than a single carton but which will burn half an hour or more.

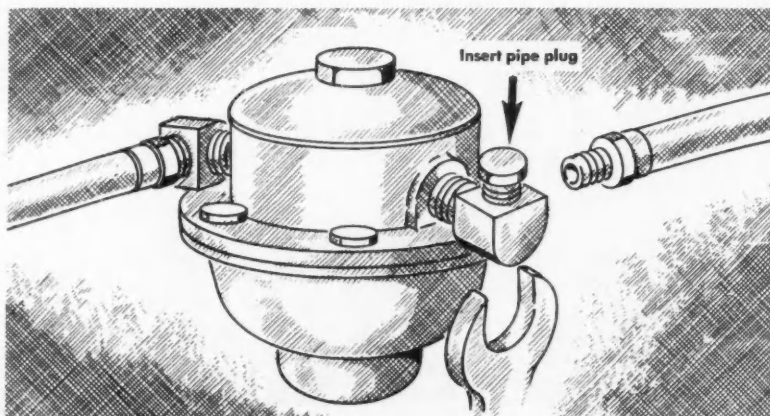
**DON'T "BEND THE ELBOW"**—Those brass elbows on fuel pump, carburetor, oil filter, etc., often have to be screwed in half a turn or more tighter than necessary in order to align with the gas or oil line. In so tightening

**RESISTOR "RESISTS" STARTING**—If your car radio employs a resistance unit on the high tension wire between the coil and distributor cap (to eliminate ignition interference) it may become a cause of hard starting. Many resistors develop increasing resistance due to age and engine heat, to such an extent that



it cuts current to the spark plugs. Correct resistance is usually marked on the unit and you can take it to your radio man for quick checking. Or, while it is removed, insert the coil directly into the distributor, and if your car starts easier it proves you need a new resistance unit.

them it is all too easy to distort the soft brass and ruin the fitting or make it leaky. You can prevent this crushing by screwing a correct-thread bolt or cap screw into the open end of the elbow when using wrench force.





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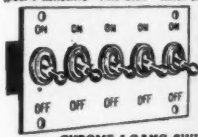
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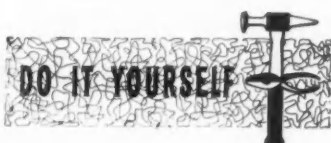
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## THREE-FOR-ONE TAIL LIGHTS

Photo story by George Barris

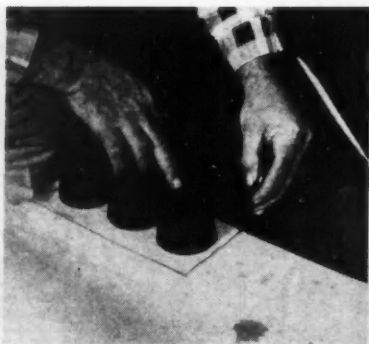
**THE KAISOTO**—MOTOR TREND'S Kaiser/DeSoto laboratory car—provides a testing ground for automotive products and designs that can improve performance, comfort, convenience and safety. In this last category we

believe that instantly distinguishable rear light signals are of vital importance. That's why we have replaced the original Kaiser single tail/stop light with a three-way system that provides a separate signal for tail light,

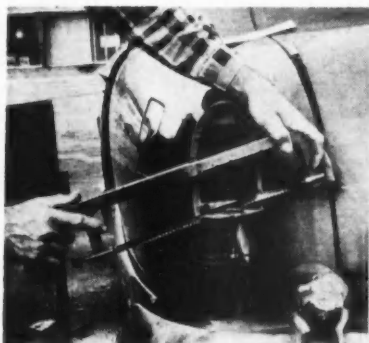
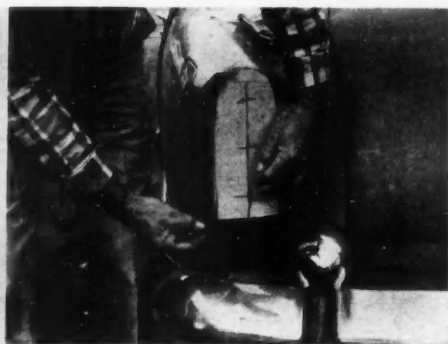
stop light, and turn indicator. How this comparatively simple yet highly effective modification was made is illustrated below. The same basic safety improvement could be adapted to many other cars.



Removing original Kaiser tail/stop light reveals ledge at bottom. Paper or cardboard template is drawn around three red tail light



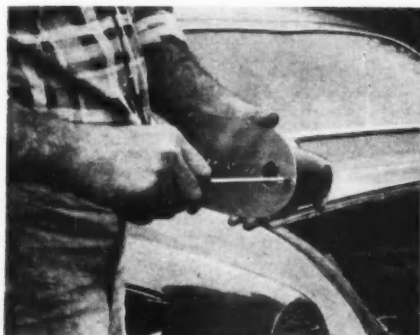
lenses from '56 DeSoto, and position marked on fender for cutting. Mark is made 1/4" below template bottom for new mounting ledge.



Vertical back saw cut into lower portion of fender is extended to bottom mark line. Right-angle tin snip cuts are made at corners.



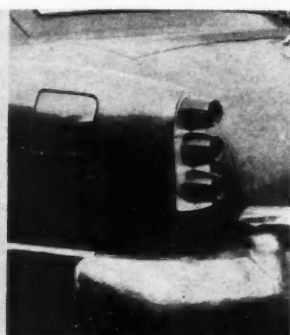
Edges are then bent in to provide ledges for mounting new plate. Extruded aluminum backing, cut to template size, is drilled for screws.



Lenses are screw-mounted to backing plate in which bulb socket holes have been cut. After necessary re-wiring has been completed, holes



are drilled for bottom mounting screws. New three-light fixture has the tail light at top, brake light in middle, turn signal at bottom.





## Questions and Answers

What is it—Best Car Buys is a listing service . . . a publication which is sent to you every six weeks. It is an organized effort to bring to you from hundreds of sources throughout the United States a list of new and used cars that you may purchase at dealers wholesale or below . . . it is an organized effort to screen from thousands of current wholesale buys the very best ones and present them to you in published form, describing the car . . . the equipment . . . the price . . . the address of the seller and complete instructions for buying wholesale.

But how can I buy wholesale . . . I am not a dealer! True, many of these cars can be bought only through a licensed dealer so we have arranged for a licensed dealer to buy them for you. You will be given a registered number and card which will be submitted each time you wish to make a purchase . . . it's as simple as that.

What type of cars will I be able to buy wholesale! Practically every make and model . . . NEW and USED . . . American and Foreign . . . New cars ordered to your specifications . . . Used cars from the 1950 models through the 1958's . . . sedans, hardtops, wagons, convertibles, trucks, even cars from overseas . . . direct to you.

Where do these cars come from! The giant auto wholesalers who sell large volumes of cars to the used car dealers . . . private company fleets who sell every one or two years . . . distressed new and used car dealers who must reduce inventory . . . car leasing agencies . . . car rental agencies who may sell a car after four months of use but usually after ten to twelve months. Federal, State, County and City agencies who dispose of cars by bid . . . fleet brokers.

What is wrong with these cars . . . they are so cheap! What at first may seem like a gimmick can be explained if you understand the sound business principle behind these prices. First of all, remember these are not retail prices, in fact many are below the average wholesale and are exceptional buys for the car dealer as well as for you. These cars are normally sold only to the car dealer for resale on his lot and if you didn't know how and where to buy direct you might end up buying one of these same cars from his lot and be paying him a profit instead of making one for yourself. The fact that you can buy some of these cars below their actual wholesale value is not because they are wrecked or damaged but because they are usually fleet cars and are sold under a different system than the buying and selling of single units.

As an example let us examine a typical situation where the fleet user is an insurance company who buys 300 cars each year. To begin with they buy from the dealer who gives them the lowest bid . . . these prices are usually \$25.00 to \$50.00 over the dealers wholesale. After the company has purchased these cars they set up a tax depreciation on each car which will allow them to sell this car at the end of one or two years for a very small sum compared to its current market value yet justify this loss or depreciation from a tax standpoint . . . this is the first explanation. When the company is ready to buy another fleet the dealer who sells the new cars is rarely in a financial position or willing to take 300 used cars in trade on a gross profit of \$25.00 a car. Therefore, the insurance company must dispose of their own cars and this is usually done through the giant middleman or fleet broker who will bid and buy the entire fleet. Since his success is dependent on buying and selling as fast as possible . . . so that he can release his working capital for future bids . . . he sells price . . . for he knows that this is the only way he can unload these cars fast enough . . . his outlook on the car market is how much can he make on his investment in how short a time . . . not what the market potential is for a single car. His formula is simple . . . he divides the total number of cars into total price he pays the insurance company and adds a profit suitable for his risk investment and this is the price all 300 cars will be sold for . . . a very democratic action since among these three hundred cars some may be driven 9000 miles while others may be driven 40,000. You see it will be possible for you to benefit tremendously from this system.

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1957	PLYMS...	\$550
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Approximately 1500 of these are available with standard or automatic transmissions, some have power steering, all 1957 Fords, Chev's, Plymouths are guaranteed not to have bad transmissions, bent chassis, broken windows, major body dents and all are in good running condition. Price is at point of sale. Delivery charge depends on distance, maximum approximately \$75. Cars may be inspected by yourself or an appointed mechanic. Prices taken from a current issue of Best Car Buys at the time this advertisement was prepared.

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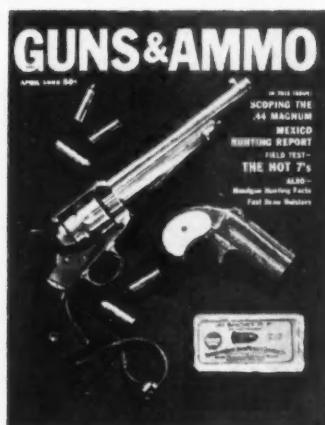
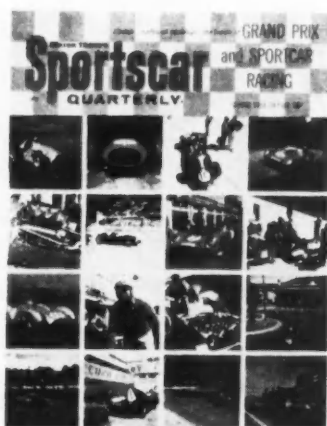
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Members of the magazine industry have commented that the rise of Petersen Publishing Company in but a few years seems like a work of fiction. Now, the tale becomes even more amazing with the addition of two new magazines: GUNS & AMMO and MOTOR TREND'S SPORTSCAR QUARTERLY.

First published last year, both have proven immediately successful. GUNS & AMMO changed from quarterly publication to a bi-monthly schedule with the February 1959 issue; SPORTSCAR QUARTERLY will become a bi-monthly with its next (June) issue.

GUNS & AMMO is the sort of magazine gun enthusiasts have long awaited. Handguns, shotguns, rifles; antique collecting, handloading, shooting . . . every aspect of the world of weapons can be found between its covers, presented in detail and supplemented with vivid rotogravure photography.

SPORTSCAR QUARTERLY is the product of the augmented staff of MOTOR TREND Magazine, which brings to its coverage of sportscar activities the same proficiency that characterizes every page of MOTOR TREND. Names like Fangio, Moss, Miles, Hawthorn regularly grace the contents of this colorful publication.

The April edition of GUNS & AMMO and the Spring edition of SPORTSCAR QUARTERLY are currently on sale, at 50c per copy. (The June editions of both magazines will be on sale April 16.)

If you have products to sell in the gun, ammunition or sportscar fields, these magazines offer you a direct new way to these markets. The same reader response that made increased publishing frequency necessary will mean great response to your message. For complete data, rates, closing dates, requirements etc., write or call any of our offices listed below.





## WHAT'S YOUR QUESTION? CHECK WITH CHUCK

Conducted by CHARLES NERPEL Technical Editor

### "Can I be forced to install an anti-smog muffler or other similar device on my privately owned car?"

IF THE LEGISLATORS OF YOUR PARTICULAR STATE decide to amend the existing vehicle code, you *can* be required to install such a device if it is approved by them. If such a device ever does become mandatory, there will naturally be a generous period of time, possibly several years, for owners to so equip their cars. The law could also require that all new cars delivered in a particular area have the device already installed. It is interesting to note that legislators and their appointed experts will enact laws that affect often millions of small sources of air pollution that might require years to eliminate, while virtually ignoring a few major industrial air polluters that could be cleared up in a relatively short time. There are 79 million licensed drivers in the United States who have practically no voice in their traffic laws outside of the fact that about 20 per cent of the gasoline taxes they pay are diverted to uses other than highways and traffic safety. Compare this to some heretofore unheard-of "private air pollution study organizations" who in many cases are financed by some of the major sources of industrial pollution. A similar example is the anti-stream pollution law, where there have been cases of a yachtsman cited for dumping a bucket of dirty dishwater into the river not 200 feet from the sewer outfall of a plant or city that was pouring thousands of tons of waste into the same stream. MOTORISTS, ARISE!

### "Despite a complete tune-up I cannot get anywhere near the mileage those economy run cars get. Why?"

DRIVING AN ECONOMY RUN OR RALLY is a lot different from the type of driving done by even better-than-average motorists. This is a real featherfoot operation, taking every possible advantage of terrain, signals, wind, and engine power. Windows are kept closed, and radio and cigarette lighter are not used to prevent any extra load on the generator. Even the signals through cities and towns are charted so progress through these areas can be made with a minimum of shifting or excess throttle. The average driver, touring or in the city, would not have much pleasure with this sort of driving, but it sure shows up in the overall miles per gallon that it is possible to get with even the big engines. The effects of excessive use of the throttle on gas consumption are graphically illustrated when using a tenth-gallon fuel bottle for mpg tests at steady speeds. Cruising on level roads at a steady 50 mph shows a slow steady lowering of the fuel level in the glass bottle, but just punch the throttle slightly and the level drops suddenly as the engine gulps fuel it really doesn't use. So if you are getting within three to five miles per gallon of the figures published for economy runs, don't shoot your mechanic—just wear a lighter shoe on your throttle foot.

### "Whatever happened to American Motors' air-cooled V4 engine?"

LATE THIS SUMMER we saw one of them sitting alone and neglected on a drafting table in one of American Motors' engineering labs. Asked about its future, engineers there just shrugged their shoulders and had little to say other than that the engine worked well. Good news to those who like to think of something new and different in domestic automotive powerplants is the announcement by American Motors that Army Ordnance has ordered 250 lightweight, quarter-ton four-wheel-drive vehicles for military use, powered by their air-cooled V4 engine. After five years of development by American Motors engineers, the engine now has a place in the world. It weighs 303 pounds, has 108-cubic-inch piston displacement, develops 55 hp at 7.5 to 1 compression ratio and has a 24-volt ignition system. Designed for air use by the Marine Corps, the vehicle is called "Mighty Mite."



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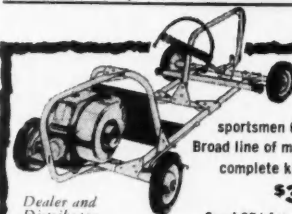


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# GLEAM Engineers

A MOTOR TREND CARTOON  
FEATURE by CARL KOHLER

Sooner or later almost everyone who owns a car must find a way to wash it. Since we live in an age fraught with sundry vicissitudes and peopled with versatile individuals, it only follows there are many schools of thought and deed regarding the washing of vehicles. Portrayed here are several of them . . .



**SPARTAN** . . . Courageously views getting the car washed in the same category as keeping the lawn watered, carrying out old newspapers to the garage, and loaning money to relatives. This solid, forthright type doesn't procrastinate but goes at it with verve, and minimum equipment.



**EXPERIMENTALIST** . . . Buys every car-washing product and gadget that comes on the market in the hope that he will find something to make the job a joy, easily accomplished in only half the time it previously took him. Had to build a second garage to house the accumulated supplies.



**ORGANIZER** . . . Holds the sensible conviction that getting available labor together with a waiting job of work is simply a matter of thought, modest capital and a sense of organization. Luckily, he faces no labor/management disputes since he exercises the parental power of the Last Word.



**STRAW BOSS** . . . Has cleverly convinced The Little Woman that her natural superiority for cleaning elects her to the skilled washing of the family car. He does condescend to supervise her efforts and thereby make certain that she doesn't miss a square inch of vehicle while she's scrubbing.



**NON-CONFORMIST** . . . Something of a slob, he takes a dim view of all that work involved in getting the car washed. Prefers to wait until nature—in the form of a spirited rainstorm—performs the task for him. Meanwhile, he drives filthiest car in nine counties during periods of drought.



**ARISTOCRAT** . . . Would no sooner think of attempting the chore himself than he would consider building his own car. Admits he is the product of a pushbutton era—and until cars can be washed by punching a button, he plans to avail himself of services of those who specialize.

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# CLASSICOMMENTS

by Robert J. Gottlieb Classic Car Editor

**THE QUESTION OFTEN ARISES** as to whether to install naugahyde or leather in restoring a classic. There are those who claim that naugahyde will outlast leather, and it is conceded that naugahyde is much cheaper.

Depending on the upholstery concern, a phaeton or four-door convertible costs from \$400 to \$800 for a complete leather interior. The same job in naugahyde would run from \$250 to \$500.

Despite the claims of manufacturers that naugahyde which is an exact duplicate of leather is now being produced, naugahyde always looks like what it is—plastic. Bolts and swatches look pretty good to the eye, but when a large expanse of material is laid on a seat or door panel you can tell by examination that it is plastic and not genuine. This seriously affects the value of a classic and we have yet to see any car re-covered in plastic as a concours winner.

**ARE YOU TROUBLED** with one or two stuck valves? This is a common bugaboo among classic car owners for the simple reason that the cars are generally not driven often enough to keep the valves free. We have previously discussed remedies such as grinding the valves, reaming valve guides, use of valve lubricants, and advantages as well as disadvantages of upper cylinder lubricators. Often a permanent (and sometimes a temporary) repair can be made in the following manner: Remove the valve side covers and with the engine running, insert a screwdriver between the tappet and valve stem. The added width of the screwdriver head will often be sufficient to start a valve in operation which has been stuck in a partially closed position. If a valve is stuck in a wide-open position, remove the spark plug and completely fill the combustion chamber with penetrating oil. Then carefully try to work the valve down by means of a screwdriver inserted through the spark plug hole at an angle that will exert pressure on the valve head. Be very careful that you don't damage the spark plug threads. If these remedies fail, you will have to do a complete valve job.

**AS LONG AS WE HAVE** car maintenance in mind, consider the problem of one enthusiast in the Midwest. He thought the fan on his Packard wasn't running true so he took some pliers and attempted to straighten the blades. To make a long story short, the whole kit and kaboodle flew through the hood a few miles later.

Fans are balanced to a degree, even on classics, and bending a blade can affect that balance. You don't add or take away any weight but you often weaken the structure by pushing it around, and unless a jig is used one blade may bite a greater proportion of air than the others. This can lead to disastrous results.

**HERE'S A TIP** for Packard owners. The shutters on late model Cadillacs are operated by a thermostatic unit which is directly interchangeable with some units used during the classic era. For example, we bought a thermostat from a local Cadillac dealer and installed it with no strain on a '37 Super 8.

**BUGS CAN SPLATTER** not only windshields but also paint and chrome. They can be quite a problem, especially if you don't remove them immediately. The majority will disappear after a wash but no amount of washing seems able to eliminate the gushiest ones.

Some enthusiasts use ordinary household cleansers. These can be very effective but abrasive ingredients are likely to leave scratches on a lacquered finish. We have seen enthusiasts use plain kerosene, corn starch and even baking soda with varying degrees of success. These substances work best with enamel paint where it is desired to avoid polishes and automobile finish cleaners.

Most polishes and cleansers leave the cleaned area a slightly different color from an untouched area on an enamel finish. This is much more noticeable on enamel than lacquer. The safest bet is auto polish and, if unsuccessful, automobile cleaner. Most important of all, don't let the bugs remain on the automobile for a long period of time. Some of them contain a lot of acid which will eat through paint or a well-chromed bumper.

**IN AN EARLIER ISSUE** we had a paragraph on erratic transmissions that jumped out of gear under certain circumstances. An apparent cure seemed to be the replacement of the gear grease with engine oil. We didn't understand why this worked. We have had a number of letters from readers who think the answer is as follows: Worn shafts and gear teeth cause improper meshing. Standard transmission grease, due to its viscosity, forces gear teeth apart. When engine oil is installed the gears achieve a greater degree of that mechanical condition known as meshing and the transmission will not be as erratic in operation until further wear occurs. Could be . . . ?

**THE RESPONSE** to our thoughts on costumes in a recent issue has been fantastic. The majority oppose the requirement that costumes be worn on club outings. Most of the letters merely say "amen" to the costume problem or commend us for our attitude. A small minority of exhibitionists are vehement—in fact, almost violent on the subject. Their choice of words could never be reprinted here.

We know that it takes all kinds of people to fill this world of ours. We can even understand (after lengthy visits with a psychiatrist) why a man will grow and maintain a handlebar mustache for the edification of spectators who watch him drive a classic. We can't understand the jokers who purchase plastic mustaches in a novelty shop for use whenever a classic is driven. This latter situation has reached a point of absurdity. The plastic-mustached boys soon found that wind currents would blow their mustaches off at speeds exceeding 20 miles per hour. They sought and found a solution. They went back to the novelty shops and purchased Halloween units consisting of phoney eyeglasses, phoney noses, and a phoney mustache. The wind won't blow their disguises off, so they feel they are right in style whenever they drive their cars. Wonder what they'll think up next . . . ?





# N O W



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'29 CHANDLER Straight 8 sed. in exc. orig. cond. Top running order, 6500 mi. Pix available. H. Wilson, Box 54, Olmsted Falls, Ohio. Phone ADams 5-3103.

'16 CADILLAC V8 7-pass. touring. Excellently restored like new; side curtains. Pix available. H. Wilson, Box 54, Olmsted Falls, Ohio. Phone ADams 5-3104.

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CLASSIC & ANTIQUE CAR Sales Catalogs: Packard, Chrysler, Lincoln, Cadillac, Pierce-Arrow, Buick, Orphan & Foreign cars; minimum \$5 each. Also MoTor (N.Y.) Annual Numbers. Details for large, stamped, addressed envelope. A. E. Twohy, 400 N. Kenmore, Los Angeles.

RESTORERS' GUIDE, antique & classic car service, supply directory, lists suppliers of cars, parts, tires, books, services; clubs, museums, publications. 1958-'59 edition \$2 postpaid. R. Brigham, Frankton, Ind.

SIDEMOUNT TIRE MIRRORS. Brand-new, fully adjustable to fit all sizes of tires & wheels. Chrome-plated over brass & nickel. Complete with necessary locks & keys. \$35 pr., postpaid & insured. A. Ward Shanan, 2444 S. Orkney St., Philadelphia 48, Pa.

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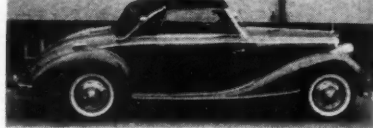
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'28 CHEVROLET pickup truck in exc. cond. Sand-blasted & ready to paint. Runs perfectly. \$400. Robin Oxie, R.R. #3, Jericho Rd., Aurora, Ill.

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17 PONTIAC conv. sed. Equipped—easily restored. Drive anywhere. Pix on request. Howard A. York, Box 681, Waterville, N. Y.

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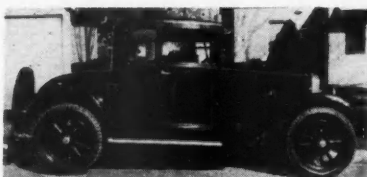
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21 CHEVROLET ENGINE & transmission. Will sell complete or parts or trade for Model A parts. Harry J. Bowers, 531 Alberson St., Covina, Calif.

55 CHRYSLER 300, with Lyeth differential, automatic transmission, power steering. Cream, with natural leather. Like new; under 18,000 mi. \$1750 or swap for late wagon. Might deliver. Teller, P.O. Box 559, Champaign, Ill.

28 ERSKINE rdstr. with rumbleseat. Very sharp—new paint & uph. Drive it anywhere. \$500 or trade



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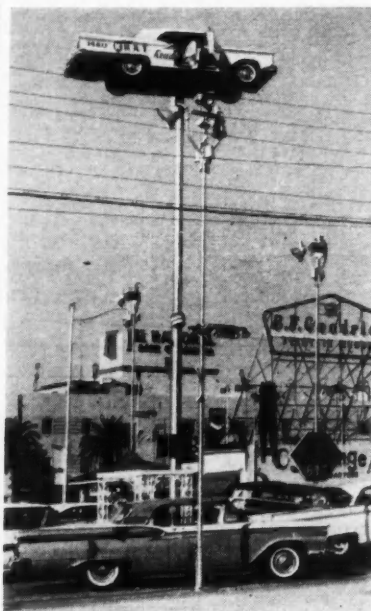


# MT ADVERTISERS INDEX

A B Associates	73
Almquist Engineering	66
American Motors	Cov. 2
Bocar	62
B & J Leather	66
Cars & Parts	70
Chevrolet Motor Div.	7
Citroen Cars Corp.	63
The Crazy Painters	78
Arnold Dain Corp.	73
Harley Davidson Motor Co.	69
Diner's Club	77
Dixon Products Co.	66
Dodge	57
Fenton Mfg. Co.	78
Four Way Welder	70
Grand Automotive Products	52
Harwill, Inc. (Aero Craft)	81
Heath Co.	9
Holmes Tuttle Ford	78
Honest Charley Speed Shop	81
Inland Mfg. Co.	81
James Auto Specialties	66
L & M Co.	Cov. 4
Lodge Spark Plug Co.	78
Mercedes Benz Sales	Cov. 3
Midway Co.	75
Milesmaster, Inc.	67
Motor Book Dept.	8
Mass Engineering	20
Myers World Traders	70
McHal Enterprises	62
National Schools	5
Newhouse Automotive Ind.	71
Opel Division	4
Paser Mfg. Co.	14-15
Plasticon	67
Plymouth	21
Ramcote Products	75
Raybestos Div.	69
Revell, Inc.	3
Seaport Traders, Inc.	75
Stewart Warner Corp.	13
Traction Master	75
Utilities Engineering Inst.	81
Victoria Products	70
Victress	70
Warn Mfg.	67
J. C. Whitney	20, 79
Wildroot Co.	63
Wright Hall Co.	80
Wynn Oil Co.	6

## ESCAPE ROAD

Edited by  
Erwin Rosen



**LITERALLY RIDING ON AIR**, a 1959 Ford convertible has been perched on a 12-inch-diameter, 41-foot-high steel pole in Phoenix, Ariz. since last November 15. Inside, John Roller of Fayetteville, Ark. is attempting to break the world's pole sitting record of 243 days, 6 hours. His automobile home has a mattress, TV set, and radio transmitter. The stunt is sponsored by a local radio station and a promotion-minded car dealer. (High man on a tout-em pole . . . ?)



"Sturdy little job, isn't it?"



"Go ahead, go ahead! I dare you to say you were dead right!"



"I warned you not to take this dotted road!"





# FLAT OUT AND FOURTH TO GO

This 300 SL is wound out in third and in just a moment the driver will shift to fourth. Flat out speed in fourth will be of a very high order. Consider that the 300 SL fuel-injection engine displaces only three litres (182 cu. in.) and the amazing performance of this car becomes even more incredible. The flexibility of the engine is so remarkable that in high gear it will accelerate from 15 mph to top speed...smoothly. Actually the real paradox of the 300 SL is simply that it offers its exhilarating performance in the lap of luxury. Just sit in the car to see what we mean. Better yet, drive it. Ask your Mercedes-Benz dealer.

**Mercedes-Benz Sales, Inc.** *(a subsidiary of Studebaker-Packard Corporation)*

THEY SAID IT COULDN'T BE DONE—BUT L'M DID IT!

They said it couldn't  
be done...  
They said nobody  
could do it...  
but —

L&M is  
**Low**  
in tar

with  
**More**  
taste to it!

Don't settle for one without the other!

©1959 LIGGETT & MYERS TOBACCO COMPANY



"THEY SAID you couldn't have a cigarette with both low tar and more taste, too. But L'M did it," says TV's Jack Lescoulié.

**LOW TAR:** L'M's patented filtering process adds extra filter fibers electrostatically, crosswise to the stream of smoke . . . makes L'M truly low in tar.

**MORE TASTE:** L'M's rich mixture of slow-burning tobaccos brings you more exciting flavor than any other cigarette!

**LIVE MODERN—CHANGE TO MODERN L'M**

Magnified diagram shows extra filter fibers added crosswise to the stream of smoke in L&M's patented Miracle Tip.



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